

# Moulded Case Circuit Breakers Ex9M DC TM



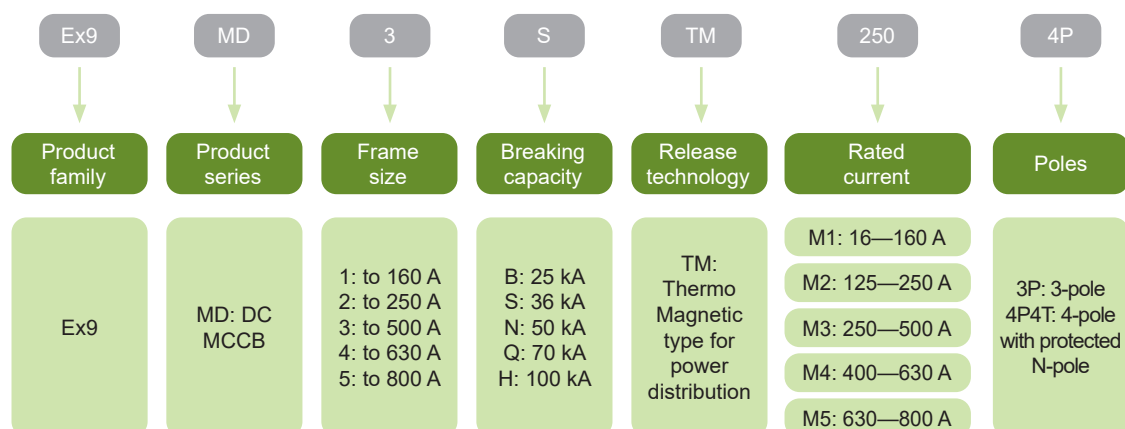
- Thermo-magnetic tripping unit for power distribution
- Frame sizes M1-M5
- Rated operating current up to 800 A
- 3 and 4-pole versions
- Rated ultimate short circuit breaking capacity  $I_{cu}=I_{cs}$  up to 150 kA,
- Rated voltage 750 V DC (3-pole) and 1000 V DC (4-pole)

DC Moulded Case Circuit Breakers Ex9MD Thermo-magnetic (TM) are intended mainly for photovoltaic applications. Testing according to IEC / EN 60947-2 standards ensures functions and reliability for wide variety of applications including isolation.

These breakers are offered with breaking capacities from 36 kA up to extreme 150 kA. High rated impulse withstand voltage makes it possible to use them even in system with occurrences of transient overvoltage waves of high intensity, e.g. in heavy industry.

Utilization category A circuit breakers.

## Type Key

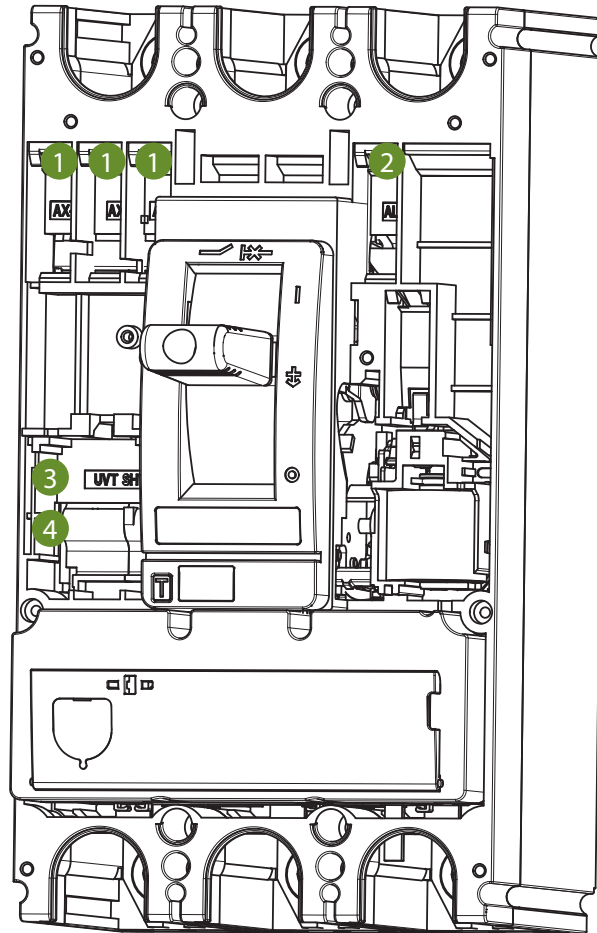


## Certification marks



# Moulded Case Circuit Breakers Ex9M DC TM

## Internal accessories



1

Auxiliary contact  
**AX21M**

2

Signal contact  
**AL21M**

3

Shunt trip release  
**SHT2i**  
1 unit or UVT2i

4

Undervoltage release  
**UVT2i**  
1 unit or SHT2i

Auxiliary contact AX21M

Signal contact AL21M

Shunt trip releases SHT2i

Undervoltage releases UVT2i

All internal accessories for the frame sizes M2+M3 and M4+M5 are identical.



# Moulded Case Circuit Breakers Ex9M DC TM

## External accessories Ex9M1-M5 DC TM



Phase barriers  
**PHS2i**



Terminal cover, short  
**TCV2i**



Terminal cover, long  
**TCE2i**



Remote operator  
**MOD2i**



Direct rotary handle  
**RHD2i**



Extended rotary handle  
**ERH2i**

Phase barriers PHS2i

Terminal cover, short TCV2i

Terminal cover, long TCE2i

Remote operators MOD2i

Direct rotary handles RHD2i

Extended rotary handles ERH2i

# Moulded Case Circuit Breakers Ex9M DC TM

## External accessories Ex9M1-M5 DC TM



Tunnel terminals  
**MC2i W**



Mounting depth spacers  
**WG i**



Screw type terminals  
**MC2i**



Screw terminals  
**MCS2i**



Din rail adapter  
**DRA2i**



Plug-in base  
**PIA2i**



Withdrawable base  
**DOB2i**

Tunnel terminals **MC2i W**

Mounting depth spacers **WG i**

Screw type terminals **MC2i**

Screw terminals **MCS2i**

Din rail **DRA2i**

Plug-in base **PIA2i**

Withdrawable base **DOB2i**

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD1B up to 160 A, $I_{cu} = 25$ kA

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	16A	11-16 A	160 A	112511	Ex9MD1B TM DC16 3P	1/12
3	20A	14-20 A	200 A	112512	Ex9MD1B TM DC20 3P	1/12
3	25A	17-25 A	250 A	112513	Ex9MD1B TM DC25 3P	1/12
3	32A	22-32 A	320 A	112514	Ex9MD1B TM DC32 3P	1/12
3	40A	28-40 A	400 A	112515	Ex9MD1B TM DC40 3P	1/12
3	50A	35-50 A	500 A	112516	Ex9MD1B TM DC50 3P	1/12
3	63A	44-63 A	630 A	112517	Ex9MD1B TM DC63 3P	1/12
3	80A	56-80 A	800 A	112518	Ex9MD1B TM DC80 3P	1/12
3	100A	70-100 A	1000 A	112519	Ex9MD1B TM DC100 3P	1/12
3	125A	87-125 A	625-1250 A	112520	Ex9MD1B TM DC125 3P	1/12
3	160A	112-160 A	800-1600 A	112521	Ex9MD1B TM DC160 3P	1/12
4	16A	11-16 A	160 A	112522	Ex9MD1B TM DC16 4P4T	1/12
4	20A	14-20 A	200 A	112523	Ex9MD1B TM DC20 4P4T	1/12
4	25A	17-25 A	250 A	112524	Ex9MD1B TM DC25 4P4T	1/12
4	32A	22-32 A	320 A	112525	Ex9MD1B TM DC32 4P4T	1/12
4	40A	28-40 A	400 A	112526	Ex9MD1B TM DC40 4P4T	1/12
4	50A	35-50 A	500 A	112527	Ex9MD1B TM DC50 4P4T	1/12
4	63A	44-63 A	630 A	112528	Ex9MD1B TM DC63 4P4T	1/12
4	80A	56-80 A	800 A	112529	Ex9MD1B TM DC80 4P4T	1/12
4	100A	70-100 A	1000 A	112530	Ex9MD1B TM DC100 4P4T	1/12
4	125A	87-125 A	625-1250 A	112531	Ex9MD1B TM DC125 4P4T	1/12
4	160A	112-160 A	800-1600 A	112532	Ex9MD1B TM DC160 4P4T	1/12

## Version Ex9MD1S up to 160 A, $I_{cu} = 36$ kA

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	16A	11-16 A	160 A	112533	Ex9MD1S TM DC16 3P	1/12
3	20A	14-20 A	200 A	112534	Ex9MD1S TM DC20 3P	1/12
3	25A	17-25 A	250 A	112535	Ex9MD1S TM DC25 3P	1/12
3	32A	22-32 A	320 A	112536	Ex9MD1S TM DC32 3P	1/12
3	40A	28-40 A	400 A	112537	Ex9MD1S TM DC40 3P	1/12
3	50A	35-50 A	500 A	112538	Ex9MD1S TM DC50 3P	1/12
3	63A	44-63 A	630 A	112539	Ex9MD1S TM DC63 3P	1/12
3	80A	56-80 A	800 A	112540	Ex9MD1S TM DC80 3P	1/12
3	100A	70-100 A	1000 A	112541	Ex9MD1S TM DC100 3P	1/12
3	125A	87-125 A	625-1250 A	112542	Ex9MD1S TM DC125 3P	1/12
3	160A	112-160 A	800-1600 A	112543	Ex9MD1S TM DC160 3P	1/12
4	16A	11-16 A	160 A	112544	Ex9MD1S TM DC16 4P4T	1/12
4	20A	14-20 A	200 A	112545	Ex9MD1S TM DC20 4P4T	1/12
4	25A	17-25 A	250 A	112546	Ex9MD1S TM DC25 4P4T	1/12
4	32A	22-32 A	320 A	112547	Ex9MD1S TM DC32 4P4T	1/12
4	40A	28-40 A	400 A	112548	Ex9MD1S TM DC40 4P4T	1/12
4	50A	35-50 A	500 A	112549	Ex9MD1S TM DC50 4P4T	1/12
4	63A	44-63 A	630 A	112550	Ex9MD1S TM DC63 4P4T	1/12
4	80A	56-80 A	800 A	112551	Ex9MD1S TM DC80 4P4T	1/12
4	100A	70-100 A	1000 A	112552	Ex9MD1S TM DC100 4P4T	1/12
4	125A	87-125 A	625-1250 A	112553	Ex9MD1S TM DC125 4P4T	1/12
4	160A	112-160 A	800-1600 A	112554	Ex9MD1S TM DC160 4P4T	1/12

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD1N up to 160 A, $I_{cu} = 50$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	16A	11-16 A	160 A	112555	Ex9MD1N TM DC16 3P	1/12
3	20A	14-20 A	200 A	112556	Ex9MD1N TM DC20 3P	1/12
3	25A	17-25 A	250 A	112557	Ex9MD1N TM DC25 3P	1/12
3	32A	22-32 A	320 A	112558	Ex9MD1N TM DC32 3P	1/12
3	40A	28-40 A	400 A	112559	Ex9MD1N TM DC40 3P	1/12
3	50A	35-50 A	500 A	112560	Ex9MD1N TM DC50 3P	1/12
3	63A	44-63 A	630 A	112561	Ex9MD1N TM DC63 3P	1/12
3	80A	56-80 A	800 A	112562	Ex9MD1N TM DC80 3P	1/12
3	100A	70-100 A	1000 A	112563	Ex9MD1N TM DC100 3P	1/12
3	125A	87-125 A	625-1250 A	112564	Ex9MD1N TM DC125 3P	1/12
3	160A	112-160 A	800-1600 A	112565	Ex9MD1N TM DC160 3P	1/12
4	16A	11-16 A	160 A	112566	Ex9MD1N TM DC16 4P4T	1/12
4	20A	14-20 A	200 A	112567	Ex9MD1N TM DC20 4P4T	1/12
4	25A	17-25 A	250 A	112568	Ex9MD1N TM DC25 4P4T	1/12
4	32A	22-32 A	320 A	112569	Ex9MD1N TM DC32 4P4T	1/12
4	40A	28-40 A	400 A	112570	Ex9MD1N TM DC40 4P4T	1/12
4	50A	35-50 A	500 A	112571	Ex9MD1N TM DC50 4P4T	1/12
4	63A	44-63 A	630 A	112572	Ex9MD1N TM DC63 4P4T	1/12
4	80A	56-80 A	800 A	112573	Ex9MD1N TM DC80 4P4T	1/12
4	100A	70-100 A	1000 A	112574	Ex9MD1N TM DC100 4P4T	1/12
4	125A	87-125 A	625-1250 A	112575	Ex9MD1N TM DC125 4P4T	1/12
4	160A	112-160 A	800-1600 A	112576	Ex9MD1N TM DC160 4P4T	1/12

## Version Ex9MD1Q up to 160 A, $I_{cu} = 70$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	16A	11-16 A	160 A	112577	Ex9MD1Q TM DC16 3P	1/12
3	20A	14-20 A	200 A	112578	Ex9MD1Q TM DC20 3P	1/12
3	25A	17-25 A	250 A	112579	Ex9MD1Q TM DC25 3P	1/12
3	32A	22-32 A	320 A	112580	Ex9MD1Q TM DC32 3P	1/12
3	40A	28-40 A	400 A	112581	Ex9MD1Q TM DC40 3P	1/12
3	50A	35-50 A	500 A	112582	Ex9MD1Q TM DC50 3P	1/12
3	63A	44-63 A	630 A	112583	Ex9MD1Q TM DC63 3P	1/12
3	80A	56-80 A	800 A	112584	Ex9MD1Q TM DC80 3P	1/12
3	100A	70-100 A	1000 A	112585	Ex9MD1Q TM DC100 3P	1/12
3	125A	87-125 A	625-1250 A	112586	Ex9MD1Q TM DC125 3P	1/12
3	160A	112-160 A	800-1600 A	112587	Ex9MD1Q TM DC160 3P	1/12
4	16A	11-16 A	160 A	112588	Ex9MD1Q TM DC16 4P4T	1/12
4	20A	14-20 A	200 A	112589	Ex9MD1Q TM DC20 4P4T	1/12
4	25A	17-25 A	250 A	112590	Ex9MD1Q TM DC25 4P4T	1/12
4	32A	22-32 A	320 A	112591	Ex9MD1Q TM DC32 4P4T	1/12
4	40A	28-40 A	400 A	112592	Ex9MD1Q TM DC40 4P4T	1/12
4	50A	35-50 A	500 A	112593	Ex9MD1Q TM DC50 4P4T	1/12
4	63A	44-63 A	630 A	112594	Ex9MD1Q TM DC63 4P4T	1/12
4	80A	56-80 A	800 A	112595	Ex9MD1Q TM DC80 4P4T	1/12
4	100A	70-100 A	1000 A	112596	Ex9MD1Q TM DC100 4P4T	1/12
4	125A	87-125 A	625-1250 A	112597	Ex9MD1Q TM DC125 4P4T	1/12
4	160A	112-160 A	800-1600 A	112598	Ex9MD1Q TM DC160 4P4T	1/12

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD1H up to 160 A, $I_{cu} = 100 \text{ kA}$

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100 \text{ kA}$  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  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	16A	11-16 A	160 A	112599	Ex9MD1Q TM DC16 3P	1/12
3	20A	14-20 A	200 A	112600	Ex9MD1Q TM DC20 3P	1/12
3	25A	17-25 A	250 A	112601	Ex9MD1Q TM DC25 3P	1/12
3	32A	22-32 A	320 A	112602	Ex9MD1Q TM DC32 3P	1/12
3	40A	28-40 A	400 A	112603	Ex9MD1Q TM DC40 3P	1/12
3	50A	35-50 A	500 A	112604	Ex9MD1Q TM DC50 3P	1/12
3	63A	44-63 A	630 A	112605	Ex9MD1Q TM DC63 3P	1/12
3	80A	56-80 A	800 A	112606	Ex9MD1Q TM DC80 3P	1/12
3	100A	70-100 A	1000 A	112607	Ex9MD1Q TM DC100 3P	1/12
3	125A	87-125 A	625-1250 A	112608	Ex9MD1Q TM DC125 3P	1/12
3	160A	112-160 A	800-1600 A	112609	Ex9MD1Q TM DC160 3P	1/12
4	16A	11-16 A	160 A	112610	Ex9MD1Q TM DC16 4P4T	1/12
4	20A	14-20 A	200 A	112611	Ex9MD1Q TM DC20 4P4T	1/12
4	25A	17-25 A	250 A	112612	Ex9MD1Q TM DC25 4P4T	1/12
4	32A	22-32 A	320 A	112613	Ex9MD1Q TM DC32 4P4T	1/12
4	40A	28-40 A	400 A	112614	Ex9MD1Q TM DC40 4P4T	1/12
4	50A	35-50 A	500 A	112615	Ex9MD1Q TM DC50 4P4T	1/12
4	63A	44-63 A	630 A	112616	Ex9MD1Q TM DC63 4P4T	1/12
4	80A	56-80 A	800 A	112617	Ex9MD1Q TM DC80 4P4T	1/12
4	100A	70-100 A	1000 A	112618	Ex9MD1Q TM DC100 4P4T	1/12
4	125A	87-125 A	625-1250 A	112619	Ex9MD1Q TM DC125 4P4T	1/12
4	160A	112-160 A	800-1600 A	112620	Ex9MD1Q TM DC160 4P4T	1/12

# Moulded Case Circuit Breakers Ex9M DC TM

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

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  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
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	125 A	87-125 A	875-1500 A	112621	Ex9MD2B TM DC125 3P	1/8
3	160 A	112-160 A	800-1600 A	112622	Ex9MD2B TM DC160 3P	1/8
3	180 A	126-180 A	900-1800 A	112623	Ex9MD2B TM DC180 3P	1/8
3	200 A	140-200 A	1000-2000 A	112624	Ex9MD2B TM DC200 3P	1/8
3	225 A	158-225 A	1125-2250 A	112625	Ex9MD2B TM DC225 3P	1/8
3	250 A	175-250 A	1250-2500 A	112626	Ex9MD2B TM DC250 3P	1/8
4	125 A	87-125 A	875-1500 A	112627	Ex9MD2B TM DC125 4P4T	1/8
4	160 A	112-160 A	800-1600 A	112628	Ex9MD2B TM DC160 4P4T	1/8
4	180 A	126-180 A	900-1800 A	112629	Ex9MD2B TM DC180 4P4T	1/8
4	200 A	140-200 A	1000-2000 A	112630	Ex9MD2B TM DC200 4P4T	1/8
4	225 A	158-225 A	1125-2250 A	112631	Ex9MD2B TM DC225 4P4T	1/8
4	250 A	175-250 A	1250-2500 A	112632	Ex9MD2B TM DC250 4P4T	1/8

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

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  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
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	125 A	87-125 A	875-1500 A	112633	Ex9MD2S TM DC125 3P	1/8
3	160 A	112-160 A	800-1600 A	112634	Ex9MD2S TM DC160 3P	1/8
3	180 A	126-180 A	900-1800 A	112635	Ex9MD2S TM DC180 3P	1/8
3	200 A	140-200 A	1000-2000 A	112636	Ex9MD2S TM DC200 3P	1/8
3	225 A	158-225 A	1125-2250 A	112637	Ex9MD2S TM DC225 3P	1/8
3	250 A	175-250 A	1250-2500 A	112638	Ex9MD2S TM DC250 3P	1/8
4	125 A	87-125 A	875-1500 A	112639	Ex9MD2S TM DC125 4P4T	1/8
4	160 A	112-160 A	800-1600 A	112640	Ex9MD2S TM DC160 4P4T	1/8
4	180 A	126-180 A	900-1800 A	112641	Ex9MD2S TM DC180 4P4T	1/8
4	200 A	140-200 A	1000-2000 A	112642	Ex9MD2S TM DC200 4P4T	1/8
4	225 A	158-225 A	1125-2250 A	112643	Ex9MD2S TM DC225 4P4T	1/8
4	250 A	175-250 A	1250-2500 A	112644	Ex9MD2S TM DC250 4P4T	1/8



# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD2N up to 250 A, $I_{cu} = 50$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$  kA at 1000 V DC
- $I_r$  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
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	125 A	87-125 A	875-1500 A	112645	Ex9MD2N TM DC125 3P	1/8
3	160 A	112-160 A	800-1600 A	112646	Ex9MD2N TM DC160 3P	1/8
3	180 A	126-180 A	900-1800 A	112647	Ex9MD2N TM DC180 3P	1/8
3	200 A	140-200 A	1000-2000 A	112648	Ex9MD2N TM DC200 3P	1/8
3	225 A	158-225 A	1125-2250 A	112649	Ex9MD2N TM DC225 3P	1/8
3	250 A	175-250 A	1250-2500 A	112650	Ex9MD2N TM DC250 3P	1/8
4	125 A	87-125 A	875-1500 A	112651	Ex9MD2N TM DC125 4P4T	1/8
4	160 A	112-160 A	800-1600 A	112652	Ex9MD2N TM DC160 4P4T	1/8
4	180 A	126-180 A	900-1800 A	112653	Ex9MD2N TM DC180 4P4T	1/8
4	200 A	140-200 A	1000-2000 A	112654	Ex9MD2N TM DC200 4P4T	1/8
4	225 A	158-225 A	1125-2250 A	112655	Ex9MD2N TM DC225 4P4T	1/8
4	250 A	175-250 A	1250-2500 A	112656	Ex9MD2N TM DC250 4P4T	1/8

## Version Ex9MD2Q up to 250 A, $I_{cu} = 70$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$  kA at 1000 V DC
- $I_r$  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
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	125 A	87-125 A	875-1500 A	112657	Ex9MD2Q TM DC125 3P	1/8
3	160 A	112-160 A	800-1600 A	112658	Ex9MD2Q TM DC160 3P	1/8
3	180 A	126-180 A	900-1800 A	112659	Ex9MD2Q TM DC180 3P	1/8
3	200 A	140-200 A	1000-2000 A	112660	Ex9MD2Q TM DC200 3P	1/8
3	225 A	158-225 A	1125-2250 A	112661	Ex9MD2Q TM DC225 3P	1/8
3	250 A	175-250 A	1250-2500 A	112662	Ex9MD2Q TM DC250 3P	1/8
4	125 A	87-125 A	875-1500 A	112663	Ex9MD2Q TM DC125 4P4T	1/8
4	160 A	112-160 A	800-1600 A	112664	Ex9MD2Q TM DC160 4P4T	1/8
4	180 A	126-180 A	900-1800 A	112665	Ex9MD2Q TM DC180 4P4T	1/8
4	200 A	140-200 A	1000-2000 A	112666	Ex9MD2Q TM DC200 4P4T	1/8
4	225 A	158-225 A	1125-2250 A	112667	Ex9MD2Q TM DC225 4P4T	1/8
4	250 A	175-250 A	1250-2500 A	112668	Ex9MD2Q TM DC250 4P4T	1/8



# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD2H up to 250 A, $I_{cu} = 100 \text{ kA}$

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100 \text{ kA}$  at 1000 V DC
- $I_r$  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
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	125 A	87-125 A	875-1500 A	112669	Ex9MD2H TM DC125 3P	1/8
3	160 A	112-160 A	800-1600 A	112670	Ex9MD2H TM DC160 3P	1/8
3	180 A	126-180 A	900-1800 A	112671	Ex9MD2H TM DC180 3P	1/8
3	200 A	140-200 A	1000-2000 A	112672	Ex9MD2H TM DC200 3P	1/8
3	225 A	158-225 A	1125-2250 A	112673	Ex9MD2H TM DC225 3P	1/8
3	250 A	175-250 A	1250-2500 A	112674	Ex9MD2H TM DC250 3P	1/8
4	125 A	87-125 A	875-1500 A	112675	Ex9MD2H TM DC125 4P4T	1/8
4	160 A	112-160 A	800-1600 A	112676	Ex9MD2H TM DC160 4P4T	1/8
4	180 A	126-180 A	900-1800 A	112677	Ex9MD2H TM DC180 4P4T	1/8
4	200 A	140-200 A	1000-2000 A	112678	Ex9MD2H TM DC200 4P4T	1/8
4	225 A	158-225 A	1125-2250 A	112679	Ex9MD2H TM DC225 4P4T	1/8
4	250 A	175-250 A	1250-2500 A	112680	Ex9MD2H TM DC250 4P4T	1/8

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD3B up to 400 A, $I_{cu} = 25$ kA

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	250 A	175-250 A	1250-2500 A	112681	Ex9MD3B TM DC250 3P	1/2
3	315 A	220-315 A	1575-3150 A	112682	Ex9MD3B TM DC315 3P	1/2
3	350 A	245-350 A	1750-3500 A	112683	Ex9MD3B TM DC350 3P	1/2
3	400 A	280-400 A	2000-4000 A	112684	Ex9MD3B TM DC400 3P	1/2
4	250 A	175-250 A	1250-2500 A	112685	Ex9MD3B TM DC250 4P4T	1/2
4	315 A	220-315 A	1575-3150 A	112686	Ex9MD3B TM DC315 4P4T	1/2
4	350 A	245-350 A	1750-3500 A	112687	Ex9MD3B TM DC350 4P4T	1/2
4	400 A	280-400 A	2000-4000 A	112688	Ex9MD3B TM DC400 4P4T	1/2

## Version Ex9MD3S up to 400 A, $I_{cu} = 35$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 35$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	250 A	175-250 A	1250-2500 A	112689	Ex9MD3S TM DC250 3P	1/2
3	315 A	220-315 A	1575-3150 A	112690	Ex9MD3S TM DC315 3P	1/2
3	350 A	245-350 A	1750-3500 A	112691	Ex9MD3S TM DC350 3P	1/2
3	400 A	280-400 A	2000-4000 A	112692	Ex9MD3S TM DC400 3P	1/2
4	250 A	175-250 A	1250-2500 A	112693	Ex9MD3S TM DC250 4P4T	1/2
4	315 A	220-315 A	1575-3150 A	112694	Ex9MD3S TM DC315 4P4T	1/2
4	350 A	245-350 A	1750-3500 A	112695	Ex9MD3S TM DC350 4P4T	1/2
4	400 A	280-400 A	2000-4000 A	112696	Ex9MD3S TM DC400 4P4T	1/2

## Version Ex9MD3N up to 400 A, $I_{cu} = 50$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	250 A	175-250 A	1250-2500 A	112697	Ex9MD3N TM DC250 3P	1/2
3	315 A	220-315 A	1575-3150 A	112698	Ex9MD3N TM DC315 3P	1/2
3	350 A	245-350 A	1750-3500 A	112699	Ex9MD3N TM DC350 3P	1/2
3	400 A	280-400 A	2000-4000 A	112700	Ex9MD3N TM DC400 3P	1/2
4	250 A	175-250 A	1250-2500 A	112701	Ex9MD3N TM DC250 4P4T	1/2
4	315 A	220-315 A	1575-3150 A	112702	Ex9MD3N TM DC315 4P4T	1/2
4	350 A	245-350 A	1750-3500 A	112703	Ex9MD3N TM DC350 4P4T	1/2
4	400 A	280-400 A	2000-4000 A	112704	Ex9MD3N TM DC400 4P4T	1/2

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD3Q up to 400 A, $I_{cu} = 70$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $i_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	250 A	175-250 A	1250-2500 A	112705	Ex9MD3Q TM DC250 3P	1/2
3	315 A	220-315 A	1575-3150 A	112706	Ex9MD3Q TM DC315 3P	1/2
3	350 A	245-350 A	1750-3500 A	112707	Ex9MD3Q TM DC350 3P	1/2
3	400 A	280-400 A	2000-4000 A	112708	Ex9MD3Q TM DC400 3P	1/2
4	250 A	175-250 A	1250-2500 A	112709	Ex9MD3Q TM DC250 4P4T	1/2
4	315 A	220-315 A	1575-3150 A	112710	Ex9MD3Q TM DC315 4P4T	1/2
4	350 A	245-350 A	1750-3500 A	112711	Ex9MD3Q TM DC350 4P4T	1/2
4	400 A	280-400 A	2000-4000 A	112712	Ex9MD3Q TM DC400 4P4T	1/2

## Version Ex9MD3H up to 400 A, $I_{cu} = 100$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery




Poles	Rated current $i_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	250 A	175-250 A	1250-2500 A	112713	Ex9MD3H TM DC250 3P	1/2
3	315 A	220-315 A	1575-3150 A	112714	Ex9MD3H TM DC315 3P	1/2
3	350 A	245-350 A	1750-3500 A	112715	Ex9MD3H TM DC350 3P	1/2
3	400 A	280-400 A	2000-4000 A	112716	Ex9MD3H TM DC400 3P	1/2
4	250 A	175-250 A	1250-2500 A	112717	Ex9MD3H TM DC250 4P4T	1/2
4	315 A	220-315 A	1575-3150 A	112718	Ex9MD3H TM DC315 4P4T	1/2
4	350 A	245-350 A	1750-3500 A	112719	Ex9MD3H TM DC350 4P4T	1/2
4	400 A	280-400 A	2000-4000 A	112720	Ex9MD3H TM DC400 4P4T	1/2

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD4B up to 630 A, $I_{cu} = 25$ kA


- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	400 A	280-400 A	2000-4000 A	112721	Ex9MD4B TM DC400 3P	1/1
3	500 A	350-500 A	2500-5000 A	112722	Ex9MD4B TM DC500 3P	1/1
3	630 A	441-630 A	3150-6300 A	112723	Ex9MD4B TM DC630 3P	1/1
4	400 A	280-400 A	2000-4000 A	112724	Ex9MD4B TM DC400 4P4T	1/1
4	500 A	350-500 A	2500-5000 A	112725	Ex9MD4B TM DC500 4P4T	1/1
4	630 A	441-630 A	3150-6300 A	112726	Ex9MD4B TM DC630 4P4T	1/1

## Version Ex9MD4S up to 630 A, $I_{cu} = 36$ kA


- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	400 A	280-400 A	2000-4000 A	112727	Ex9MD4S TM DC400 3P	1/1
3	500 A	350-500 A	2500-5000 A	112728	Ex9MD4S TM DC500 3P	1/1
3	630 A	441-630 A	3150-6300 A	112729	Ex9MD4S TM DC630 3P	1/1
4	400 A	280-400 A	2000-4000 A	112730	Ex9MD4S TM DC400 4P4T	1/1
4	500 A	350-500 A	2500-5000 A	112731	Ex9MD4S TM DC500 4P4T	1/1
4	630 A	441-630 A	3150-6300 A	112732	Ex9MD4S TM DC630 4P4T	1/1

## Version Ex9MD4N up to 630 A, $I_{cu} = 50$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	400 A	280-400 A	2000-4000 A	112733	Ex9MD4N TM DC400 3P	1/1
3	500 A	350-500 A	2500-5000 A	112734	Ex9MD4N TM DC500 3P	1/1
3	630 A	441-630 A	3150-6300 A	112735	Ex9MD4N TM DC630 3P	1/1
4	400 A	280-400 A	2000-4000 A	112736	Ex9MD4N TM DC400 4P4T	1/1
4	500 A	350-500 A	2500-5000 A	112737	Ex9MD4N TM DC500 4P4T	1/1
4	630 A	441-630 A	3150-6300 A	112738	Ex9MD4N TM DC630 4P4T	1/1

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD4Q up to 630 A, $I_{cu} = 70$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	400 A	280-400 A	2000-4000 A	112739	Ex9MD4Q TM DC400 3P	1/1
3	500 A	350-500 A	2500-5000 A	112740	Ex9MD4Q TM DC500 3P	1/1
3	630 A	441-630 A	3150-6300 A	112741	Ex9MD4Q TM DC630 3P	1/1
4	400 A	280-400 A	2000-4000 A	112742	Ex9MD4Q TM DC400 4P4T	1/1
4	500 A	350-500 A	2500-5000 A	112743	Ex9MD4Q TM DC500 4P4T	1/1
4	630 A	441-630 A	3150-6300 A	112744	Ex9MD4Q TM DC630 4P4T	1/1

## Version Ex9MD4H up to 630 A, $I_{cu} = 100$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	400 A	280-400 A	2000-4000 A	112745	Ex9MD4H TM DC400 3P	1/1
3	500 A	350-500 A	2500-5000 A	112746	Ex9MD4H TM DC500 3P	1/1
3	630 A	441-630 A	3150-6300 A	112747	Ex9MD4H TM DC630 3P	1/1
4	400 A	280-400 A	2000-4000 A	112748	Ex9MD4H TM DC400 4P4T	1/1
4	500 A	350-500 A	2500-5000 A	112749	Ex9MD4H TM DC500 4P4T	1/1
4	630 A	441-630 A	3150-6300 A	112750	Ex9MD4H TM DC630 4P4T	1/1

# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD5B up to 800 A, $I_{cu} = 25$ kA

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	630 A	441-630 A	3150-6300 A	112751	Ex9MD5B TM DC630 3P	1/1
3	700 A	490-700 A	3500-7000 A	112752	Ex9MD5B TM DC700 3P	1/1
3	800 A	560-800 A	4000-8000 A	112753	Ex9MD5B TM DC800 3P	1/1
4	630 A	441-630 A	3150-6300 A	112754	Ex9MD5B TM DC630 4P4T	1/1
4	700 A	490-700 A	3500-7000 A	112755	Ex9MD5B TM DC700 4P4T	1/1
4	800 A	560-800 A	4000-8000 A	112756	Ex9MD5B TM DC800 4P4T	1/1

## Version Ex9MD5S up to 800 A, $I_{cu} = 36$ kA

- 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  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	630 A	441-630 A	3150-6300 A	112757	Ex9MD5S TM DC630 3P	1/1
3	700 A	490-700 A	3500-7000 A	112758	Ex9MD5S TM DC700 3P	1/1
3	800 A	560-800 A	4000-8000 A	112759	Ex9MD5S TM DC800 3P	1/1
4	630 A	441-630 A	3150-6300 A	112760	Ex9MD5S TM DC630 4P4T	1/1
4	700 A	490-700 A	3500-7000 A	112761	Ex9MD5S TM DC700 4P4T	1/1
4	800 A	560-800 A	4000-8000 A	112762	Ex9MD5S TM DC800 4P4T	1/1

## Version Ex9MD5N up to 800 A, $I_{cu} = 50$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	630 A	441-630 A	3150-6300 A	112763	Ex9MD5N TM DC630 3P	1/1
3	700 A	490-700 A	3500-7000 A	112764	Ex9MD5N TM DC700 3P	1/1
3	800 A	560-800 A	4000-8000 A	112765	Ex9MD5N TM DC800 3P	1/1
4	630 A	441-630 A	3150-6300 A	112766	Ex9MD5N TM DC630 4P4T	1/1
4	700 A	490-700 A	3500-7000 A	112767	Ex9MD5N TM DC700 4P4T	1/1
4	800 A	560-800 A	4000-8000 A	112768	Ex9MD5N TM DC800 4P4T	1/1



# Moulded Case Circuit Breakers Ex9M DC TM

## Version Ex9MD5Q up to 800 A, $I_{cu} = 70$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	630 A	441-630 A	3150-6300 A	112769	Ex9MD5Q TM DC630 3P	1/1
3	700 A	490-700 A	3500-7000 A	112770	Ex9MD5Q TM DC700 3P	1/1
3	800 A	560-800 A	4000-8000 A	112771	Ex9MD5Q TM DC800 3P	1/1
4	630 A	441-630 A	3150-6300 A	112772	Ex9MD5Q TM DC630 4P4T	1/1
4	700 A	490-700 A	3500-7000 A	112773	Ex9MD5Q TM DC700 4P4T	1/1
4	800 A	560-800 A	4000-8000 A	112774	Ex9MD5Q TM DC800 4P4T	1/1

## Version Ex9MD5H up to 800 A, $I_{cu} = 100$ kA

- 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$  kA at 1000 V DC
- $I_r$  can be set in range  $(0.7 - 1.0) \times I_n$
- $I_i$  can be set in range  $(5 - 10) \times I_n$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



Poles	Rated current $I_n$	Overcurrent release $I_r$	instant. release $I_i$	Article No.	Type	Packing
3	630 A	441-630 A	3150-6300 A	112775	Ex9MD5H TM DC630 3P	1/1
3	700 A	490-700 A	3500-7000 A	112776	Ex9MD5H TM DC700 3P	1/1
3	800 A	560-800 A	4000-8000 A	112777	Ex9MD5H TM DC800 3P	1/1
4	630 A	441-630 A	3150-6300 A	112778	Ex9MD5H TM DC630 4P4T	1/1
4	700 A	490-700 A	3500-7000 A	112779	Ex9MD5H TM DC700 4P4T	1/1
4	800 A	560-800 A	4000-8000 A	112780	Ex9MD5H TM DC800 4P4T	1/1



# Technical Data Ex9M1 DC TM

## DC TM Moulded Case Circuit Breakers up to 160 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  $(5 - 10) \times I_n$  for 125 A and 160 A types, otherwise is fixed at  $10 \times I_n$

$I_{IN}$  fixed at  $10 \times I_n$

#### Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT21	101397 — 101405
Undervoltage releases	UVT21	101406 — 101407
Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT21 or UVT21)		

#### External accessories

Direct rotary handle	RHD21	101410
Extended rotary handle	ERH21	101409
Remote motor operators	MOD21	101411 — 101415
Terminal cover, short	TCV21 3P, 4P	101439, 102372
Terminal cover, long	TCE21 3P, 4P	101440, 102373
Phase barrier	PHS21	112110
Connection terminals	MC21	103705 — 103708
DIN-rail adapter	DRA21	106319
Plug-in base	PIA 21	112875, 112876, 112881, 112882

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]					
	16 — 50 A	63 A	80 A	100 A	125 A	160
PIA 21	1	1	1	1	0.95	0.95

# Technical Data Ex9M1 DC TM

## DC TM Moulded Case Circuit Breakers up to 160 A

### Electrical parameters

	Ex9M1B	Ex9M1S	Ex9M1N	Ex9M1Q	Ex9M1H
Tested according to	IEC/EN 60947-2				
Rated op. voltage $U_e$	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	16 / 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100 / 125 / 160 A				
Utilization category	A				
Mechanical service life	15 000 operation cycles				
Electrical service life	2 000 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]										
	16 A	20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A	125 A	160 A
-40	22.5	28	35	45	56	70	88	112	140	175	224
-35	22	27.5	34	44	55	68.5	86.5	110	137	172	220
-25	20.5	26.5	33	42	53	66	83	106	132	165	212
-15	20	25.5	32	41	51	64	80	102	127	159	204
-5	19.5	24.5	30.5	39	49	61	77	98	122	153	196
0	19	24	30	38	48	60	75	96	120	150	192
10	18.5	23	28	37	46	57.5	72	92	115	144	184
20	17.5	22	27	35	44	55	69	88	110	137	176
30	17	21	26	33	42	52.5	66	84	105	131	168
40	16	20	25	32	40	50	63	80	100	125	160
50	15	19.5	24	30.5	37	47.5	58.5	74.5	93	116	149
60	14.5	18.5	22.5	29	33.5	45	53	67	84	105	135
70	14	18	22	28	29	40	46	56	80	91	117

### Power dissipation characteristics

$I_n$	16 A	20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A	125 A	160 A
Pole resistance (mΩ)	8.8	8.8	5.2	4.5	2.6	1.8	1.7	1.3	0.88	0.8	0.8
Pole power dissipation (W)	2.3	3.5	3.3	4.6	4.2	4.5	6.7	8.3	8.8	12.5	20.5

# Technical Data Ex9M1 DC TM

## DC TM Moulded Case Circuit Breakers up to 160 A

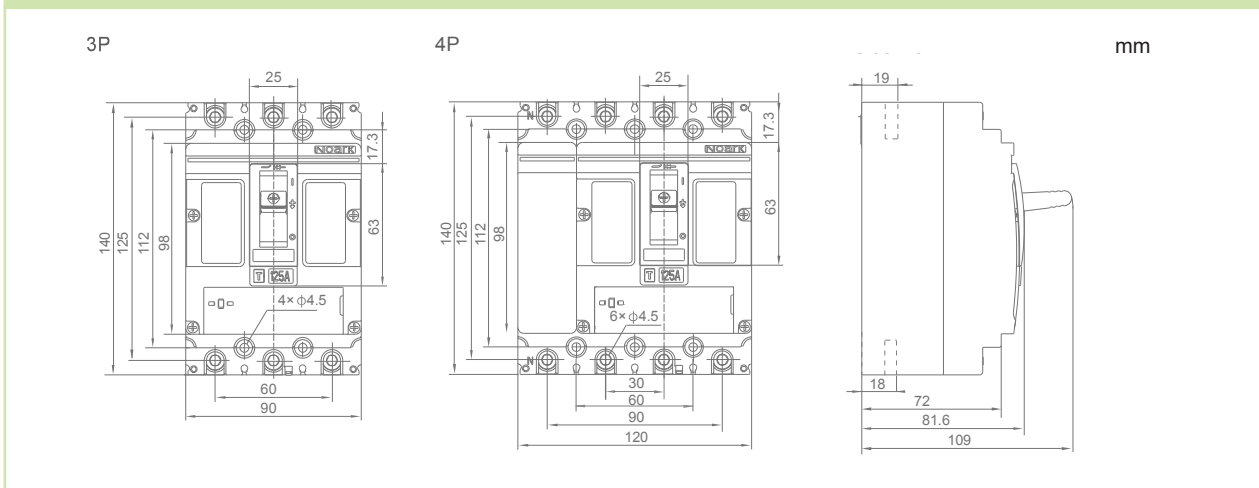
### Mechanical parameters

Device width 3P / 4P	90 mm / 120 mm
Device height	140 mm
Device depth	81.6 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	box
Terminal capacity	4 — 95 mm <sup>2</sup>
Fastening torque of terminals	8 Nm
Ambient temperature	-40 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	1.2 kg / 1.7 kg
Mounting position	vertical, can be rotated by 90° in each axis

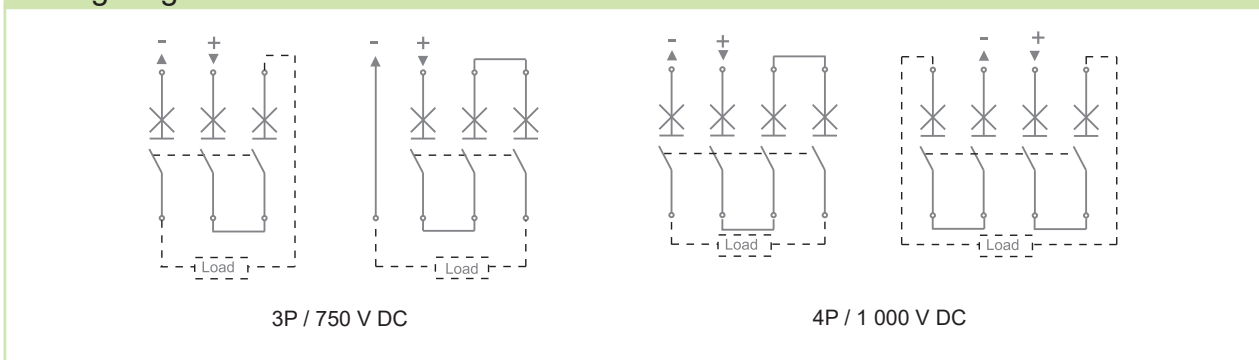
### Derating coefficient of technical parameters based on altitude

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

### Dimensions



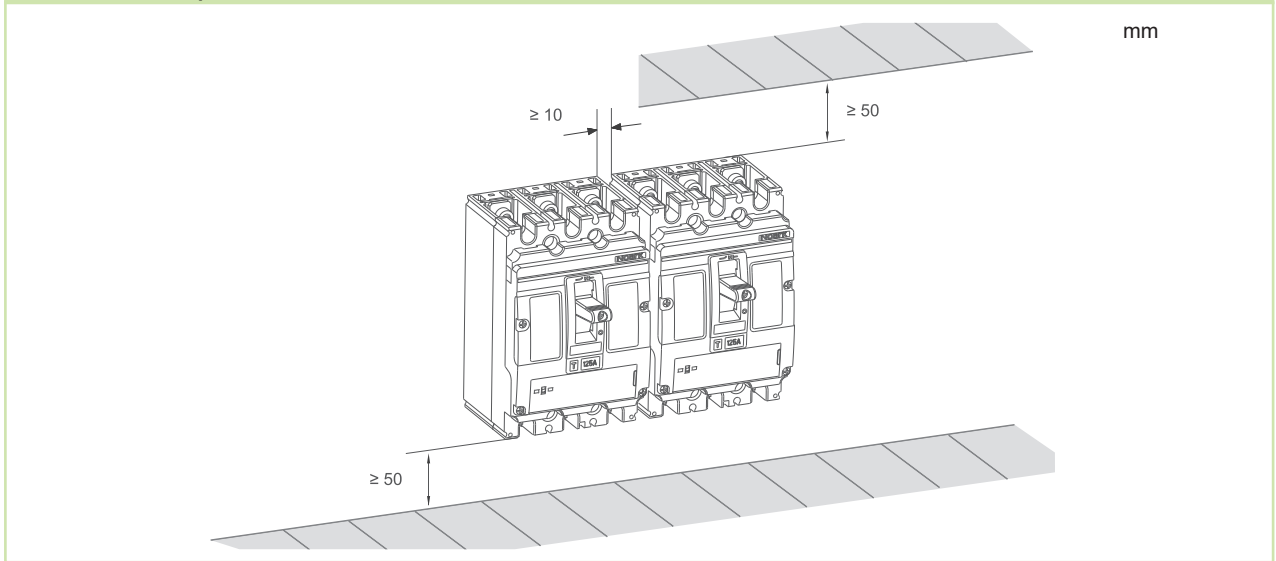
### Wiring diagram



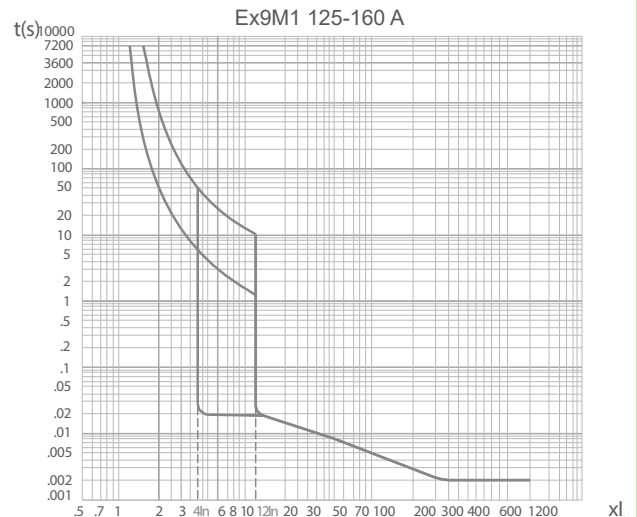
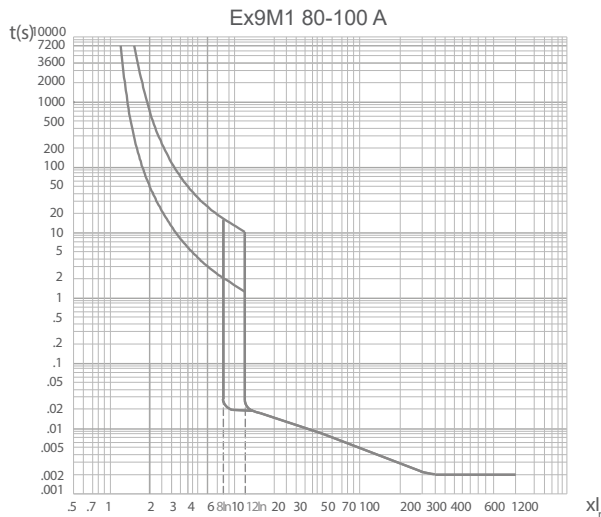
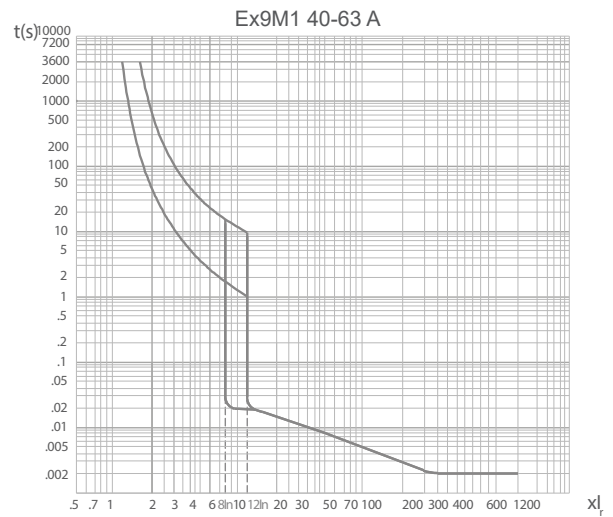
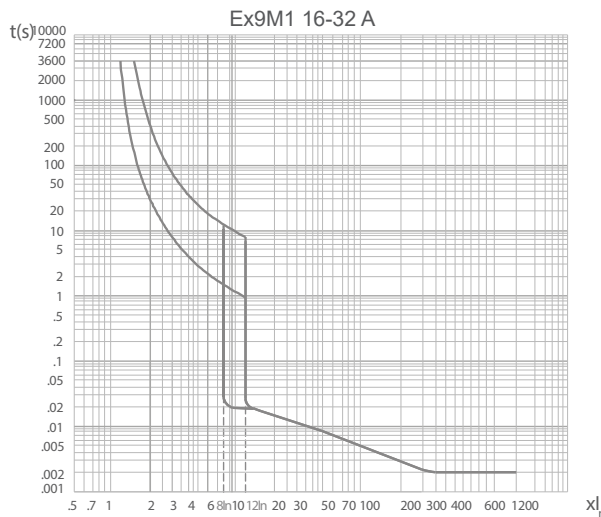
# Technical Data Ex9M1 DC TM

## DC TM Moulded Case Circuit Breakers up to 160 A

### Installation space



### Tripping characteristics



# 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	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT22	101416 — 101424
Undervoltage releases	UVT22	101425 — 101426
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	101429
Extended rotary handle	ERH22	101428
Remote motor operators	MOD22	101430 — 101434
Terminal cover, short	TCV22 3P, 4P	101442, 102374
Terminal cover, long	TCE22 3P, 4P	101443, 102375
Phase barrier	PHS22	112111
Connection terminals	MC22	103709, 103869, 103711, 103713
DIN-rail adapter	DRA22	106320
Plug-in base	PIA 22	112877, 112878, 112883, 112884

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

# Technical Data Ex9M2 DC TM

## DC TM Moulded Case Circuit Breakers up to 250 A

### Electrical parameters

	Ex9M2B	Ex9M2S	Ex9M2N	Ex9M2Q	Ex9M2H
Tested according to	IEC/EN 60947-2				
Rated op. voltage $U_e$	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

# Technical Data Ex9M2 DC TM

## DC TM Moulded Case Circuit Breakers up to 250 A

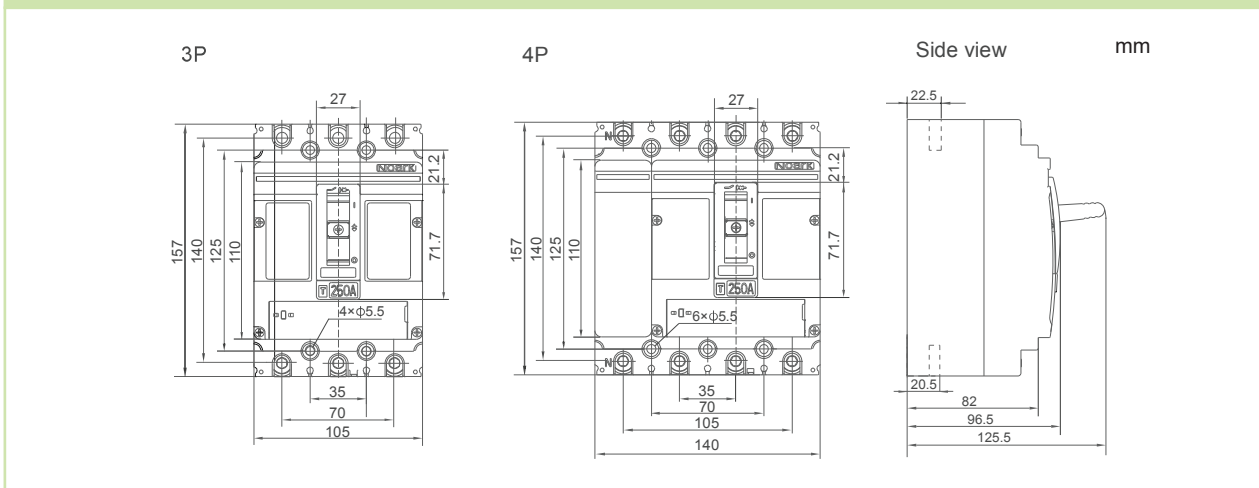
### Mechanical parameters

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 <sup>2</sup>
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

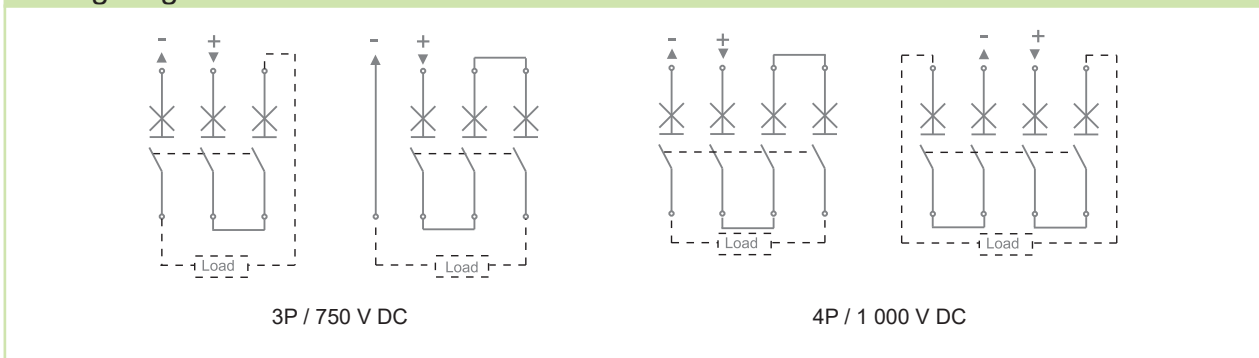
### Derating coefficient of technical parameters based on altitude

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

### Dimensions



### Wiring diagram

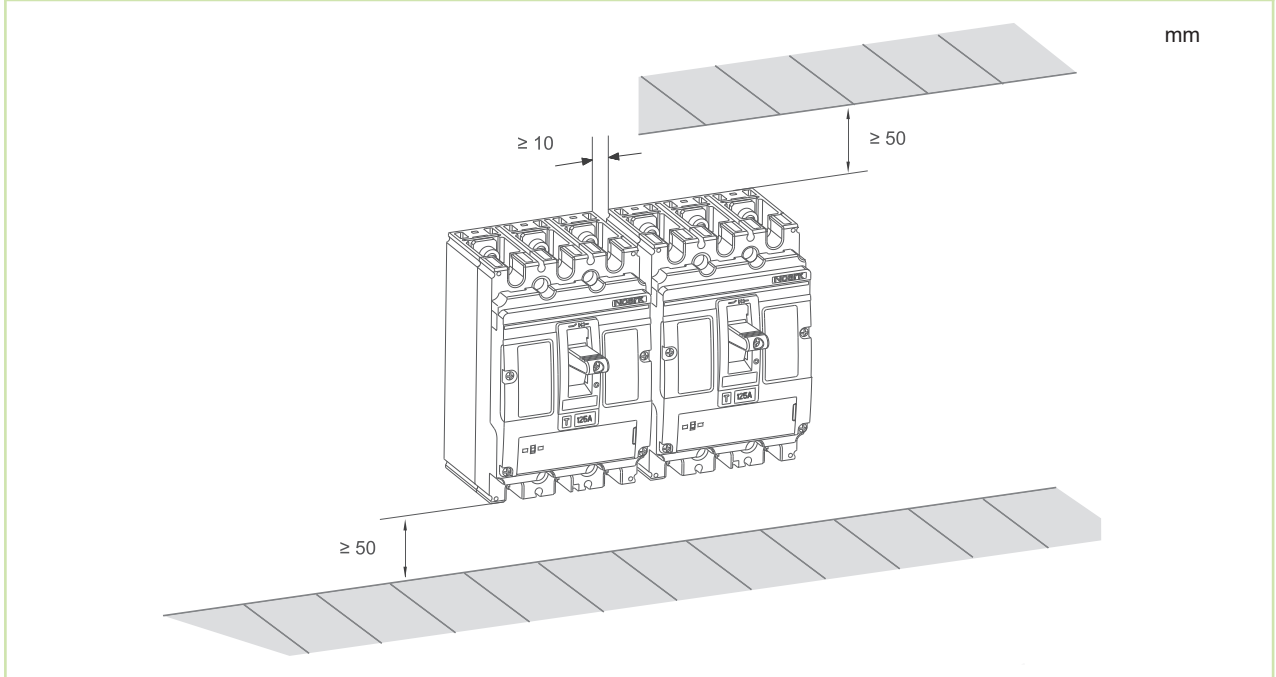




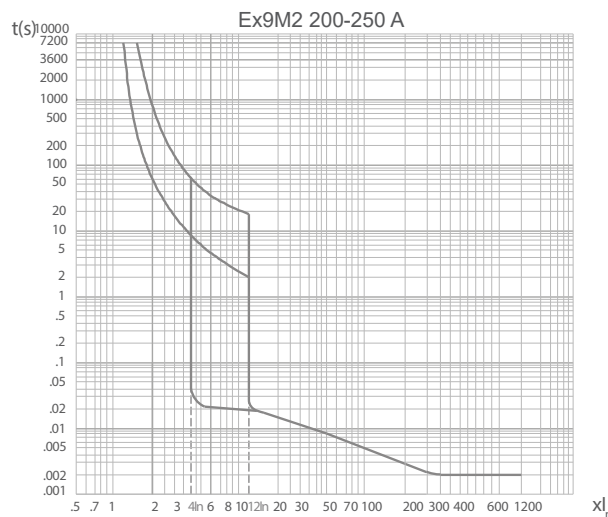
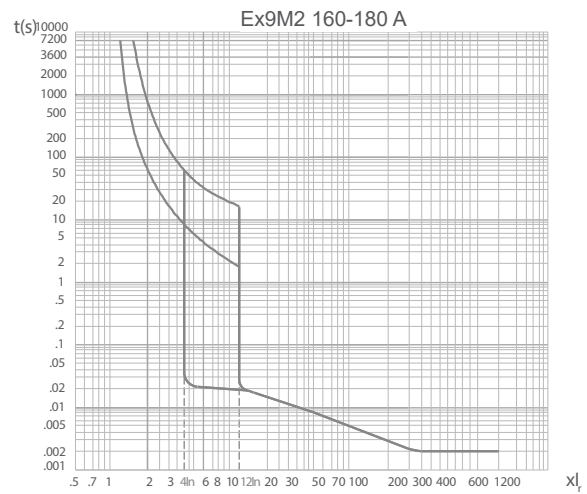
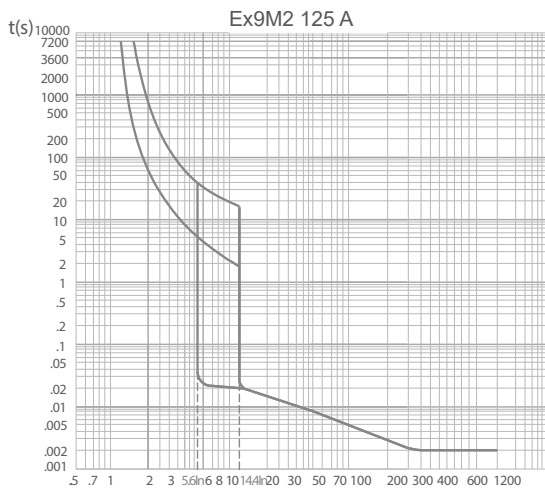
# Technical Data Ex9M2 DC TM

## DC TM Moulded Case Circuit Breakers up to 250 A

### Installation space



### Tripping characteristics



# Technical Data Ex9M3 DC TM

## DC TM Moulded Case Circuit Breakers up to 500 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  $(5 - 10) \times I_n$

$I_{IN} = I_i$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT22	101416 — 101424
Undervoltage releases	UVT22	101425 — 101426

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	RHD23	101483
Extended rotary handle	ERH23	101482
Remote motor operators	MOD23	101484 — 101488
Terminal cover, short	TCV23 3P, 4P	101489, 102376
Terminal cover, long	TCE23 3P, 4P	101490, 102377
Phase barrier	PHS23	112112
Connection terminals	MC23	103715 — 103722
Plug-in base	PIA 23	112879, 112880, 112885, 112886
Withdrawable base	DOB 23	108887, 108899, 108893, 108905, 108889, 108901, 108895, 108907

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]				
	250 A	315 A	350 A	400 A	500 A
PIA 23	1	1	1	1	0.95
DOB 23	1	1	1	1	1

# Technical Data Ex9M3 DC TM

## DC TM Moulded Case Circuit Breakers up to 500 A

### Electrical parameters

	Ex9M3B	Ex9M3S	Ex9M3N	Ex9M3Q	Ex9M3H
Tested according to	IEC/EN 60947-2				
Rated op. voltage $U_e$	750 / 1000 V DC				
Rated insulation voltage $U_i$	1 000 V				
Rated impulse withstand voltage $U_{imp}$	12 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	250 / 315 / 350 / 400 / 500 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]				
	250 A	315 A	350 A	400 A	500 A
-40	350	441	490	560	700
-35	343	433	481	550	687
-25	332	418	465	530	662
-15	319	402	447	510	637
-5	306	386	429	490	612
0	300	378	420	480	600
10	287	362	402	460	575
20	275	346	385	440	550
30	262	331	367	420	525
40	250	315	350	400	500
50	237	300	332	380	450
60	225	286	295	360	406
70	212	271	276	320	360

### Power dissipation characteristics

$I_n$	250 A	315 A	350 A	400 A	500 A
Pole resistance (mΩ)	0.35	0.25	0.25	0.15	0.12
Pole power dissipation (W)	21.9	24.8	30.6	24	30

# Technical Data Ex9M3 DC TM

## DC TM Moulded Case Circuit Breakers up to 500 A

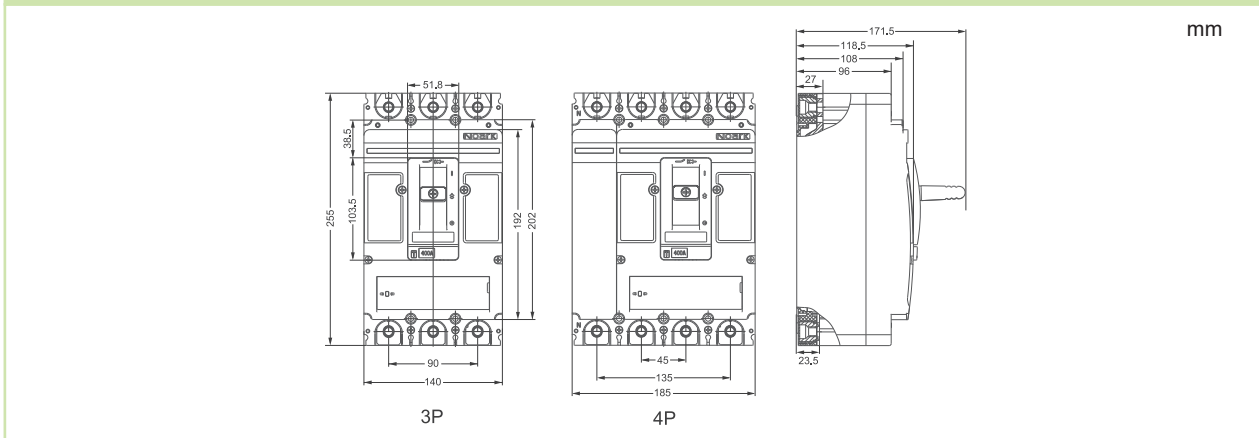
### Mechanical parameters

Device width 3P / 4P	140 mm / 185 mm
Device height	255 mm
Device depth	118.5 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M10 screws
Busbar thickness	≤ 8 mm
Busbar width	≤ 30 mm
Cable lug width	≤ 30 mm
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	5.2 kg / 6.7 kg
Mounting position	vertical, can be rotated by 90° in each axis

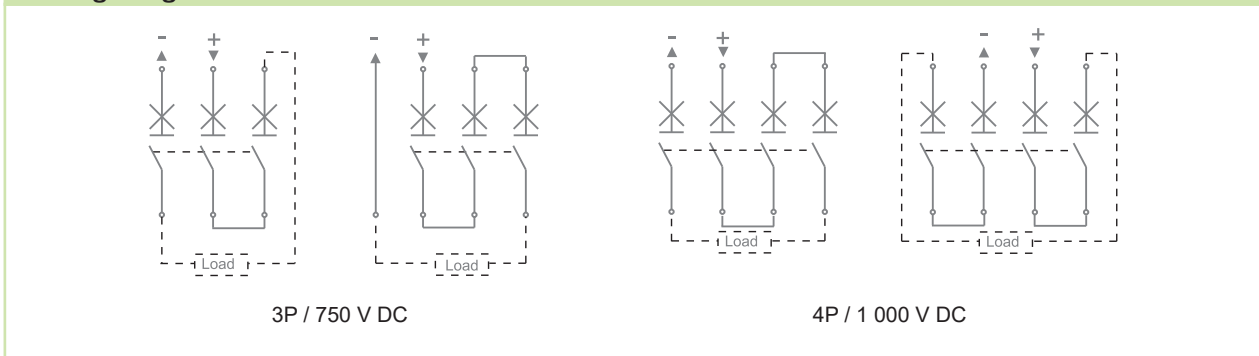
### Derating coefficient of technical parameters based on altitude

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 $U_{imp}$	12 kV	10 kV	8 kV	8 kV
Dielectric properties ( $U_{imp}=12$ kV)	3 600 V DC	3 350 V DC	3 110 V DC	2 985 V DC

### Dimensions



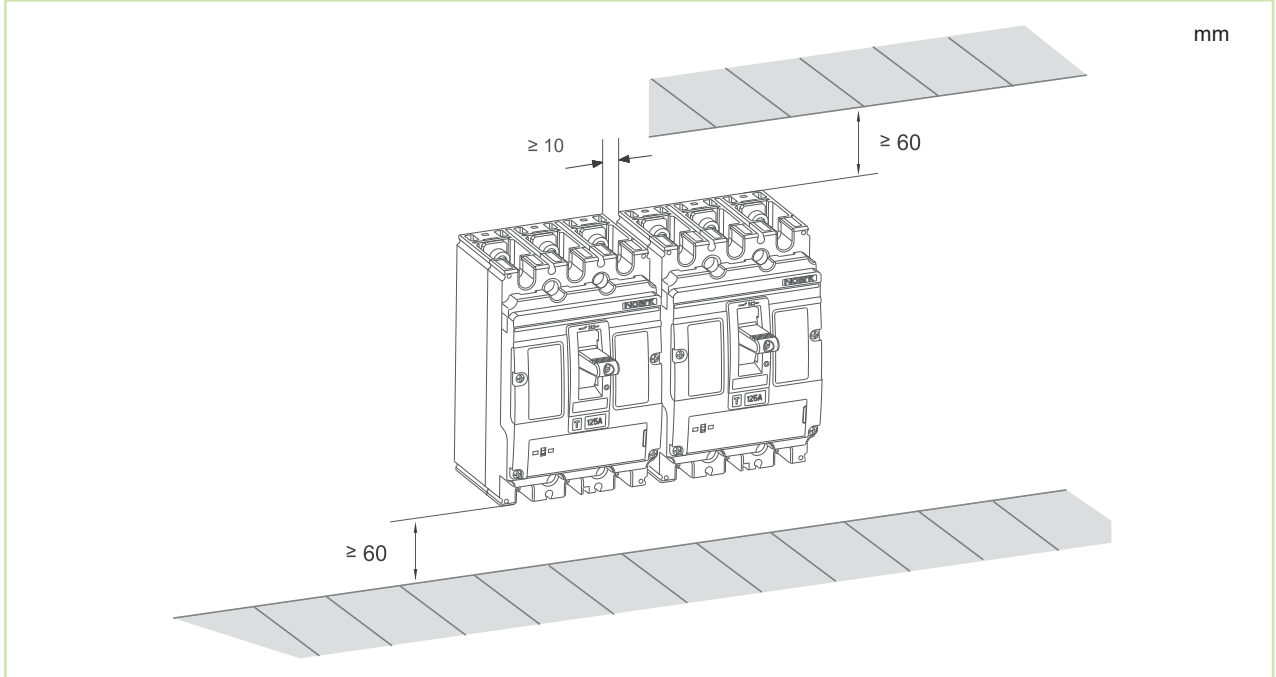
### Wiring diagram



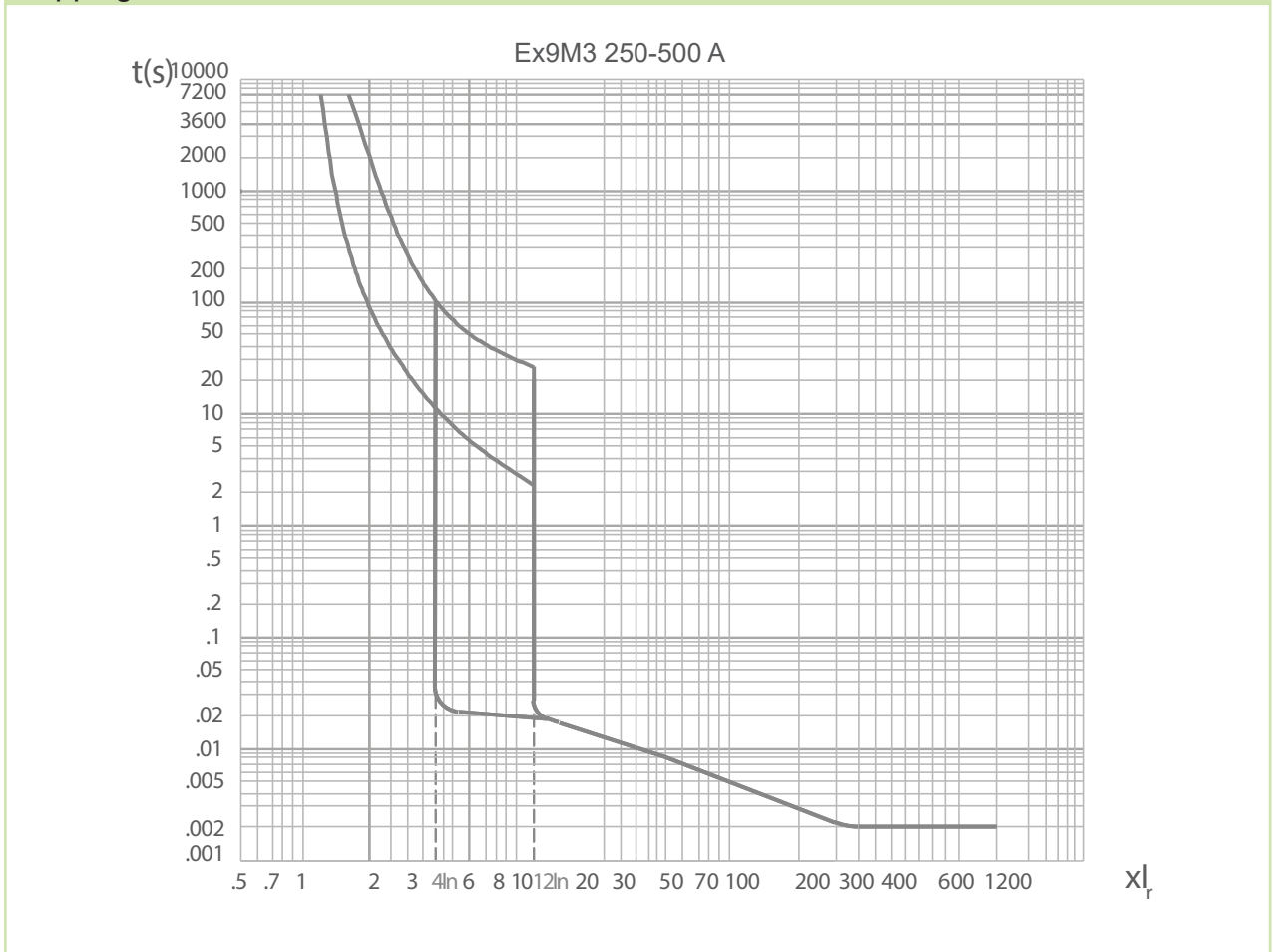
# Technical Data Ex9M3 DC TM

## DC TM Moulded Case Circuit Breakers up to 500 A

### Installation space



### Tripping characteristics



# Technical Data Ex9M4 DC TM

## DC TM Moulded Case Circuit Breakers up to 630 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  $(5 - 10) \times I_n$

$I_{IN} = I_i$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT24	103723 — 103730
Undervoltage releases	UVT24	103722 — 103740

Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT24 or UVT24)

External accessories

Direct rotary handle	RHD24	103742
Extended rotary handle	ERH24	103741
Remote motor operators	MOD24	103743 — 103747
Terminal cover, short	TCV24 3P, 4P	103748, 103750
Terminal cover, long	TCE24 3P, 4P	103749, 104855
Phase barrier	PHS24	112113
Connection terminals	MC24 W2	106314
Withdrawable base	DOB24	108891, 108903, 108897, 108909

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]		
	400 A	530 A	630 A
DOB 24	0.95	0.95	0.95

# Technical Data Ex9M4 DC TM

## DC TM Moulded Case Circuit Breakers up to 630 A

### Electrical parameters

	Ex9M4B	Ex9M4S	Ex9M4N	Ex9M4Q	Ex9M4H
Tested according to	IEC/EN 60947-2				
Rated op. voltage $U_e$	750 / 1000 V DC				
Rated insulation voltage $U_i$	1 000 V				
Rated impulse withstand voltage $U_{imp}$	12 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	400 / 500 / 630 A				
Utilization category	A				
Mechanical service life	10 000 operation cycles				
Electrical service life	1 500 operation cycles / 690 V AC				
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]		
	400 A	500 A	630 A
-40	560	700	882
-35	550	687	866
-25	530	662	836
-15	510	637	804
-5	490	612	772
0	480	600	756
10	460	575	724
20	440	550	693
30	420	525	661
40	400	500	630
50	390	490	580
60	370	460	530
70	320	400	490

### Power dissipation characteristics

$I_n$	400 A	500 A	630 A
Pole resistance (mΩ)	0.08	0.08	0.08
Pole power dissipation (W)	12.8	20	31.8



# Technical Data Ex9M4 DC TM

## DC TM Moulded Case Circuit Breakers up to 630 A

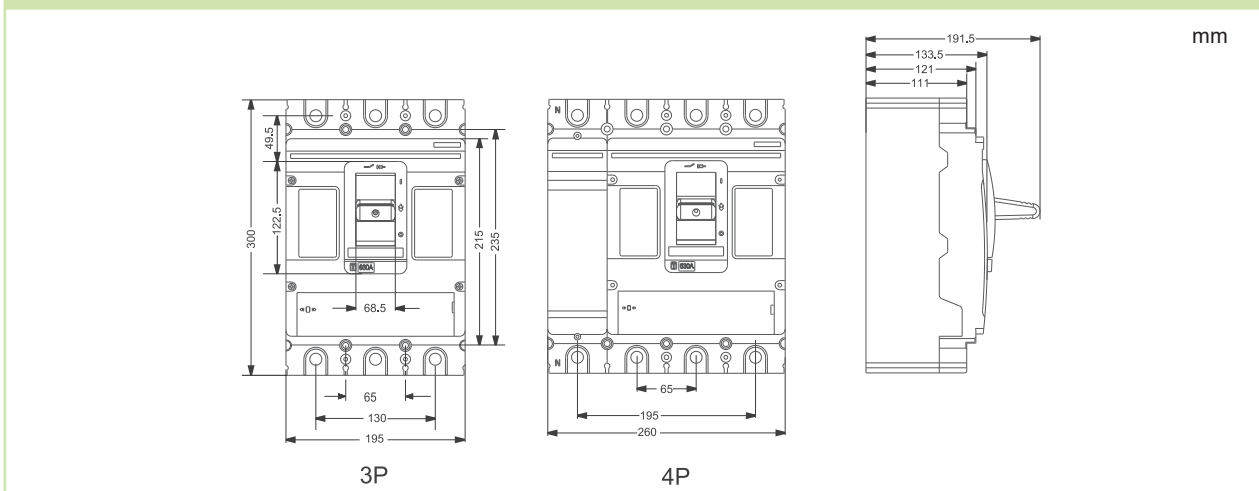
### Mechanical parameters

Device width 3P / 4P	195 mm / 260 mm
Device height	300 mm
Device depth	142 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M12 screws
Busbar thickness	≤ 10 mm
Busbar width	≤ 50 mm
Cable lug width	≤ 50 mm
Fastening torque of terminals	30 Nm
Ambient temperature	-40 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	10.5 kg / 13.5 kg
Mounting position	vertical, can be rotated by 90° in each axis

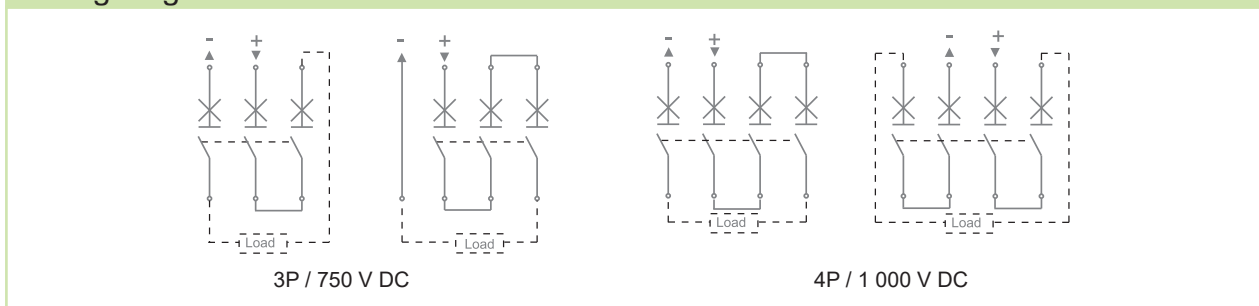
### Derating coefficient of technical parameters based on altitude

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 $U_{imp}$	12 kV	10 kV	8 kV	8 kV
Dielectric properties ( $U_{imp}=12$ kV)	3 600 V DC	3 350 V DC	3 110 V DC	2 985 V DC

### Dimensions



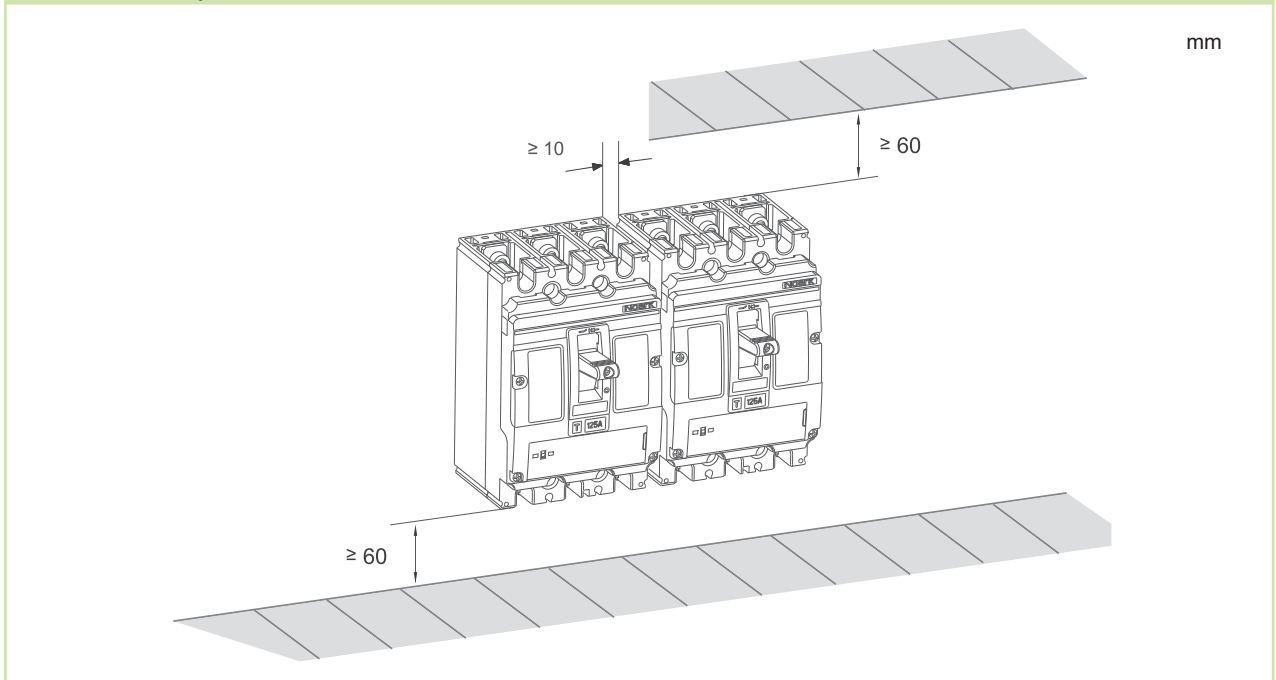
### Wiring diagram



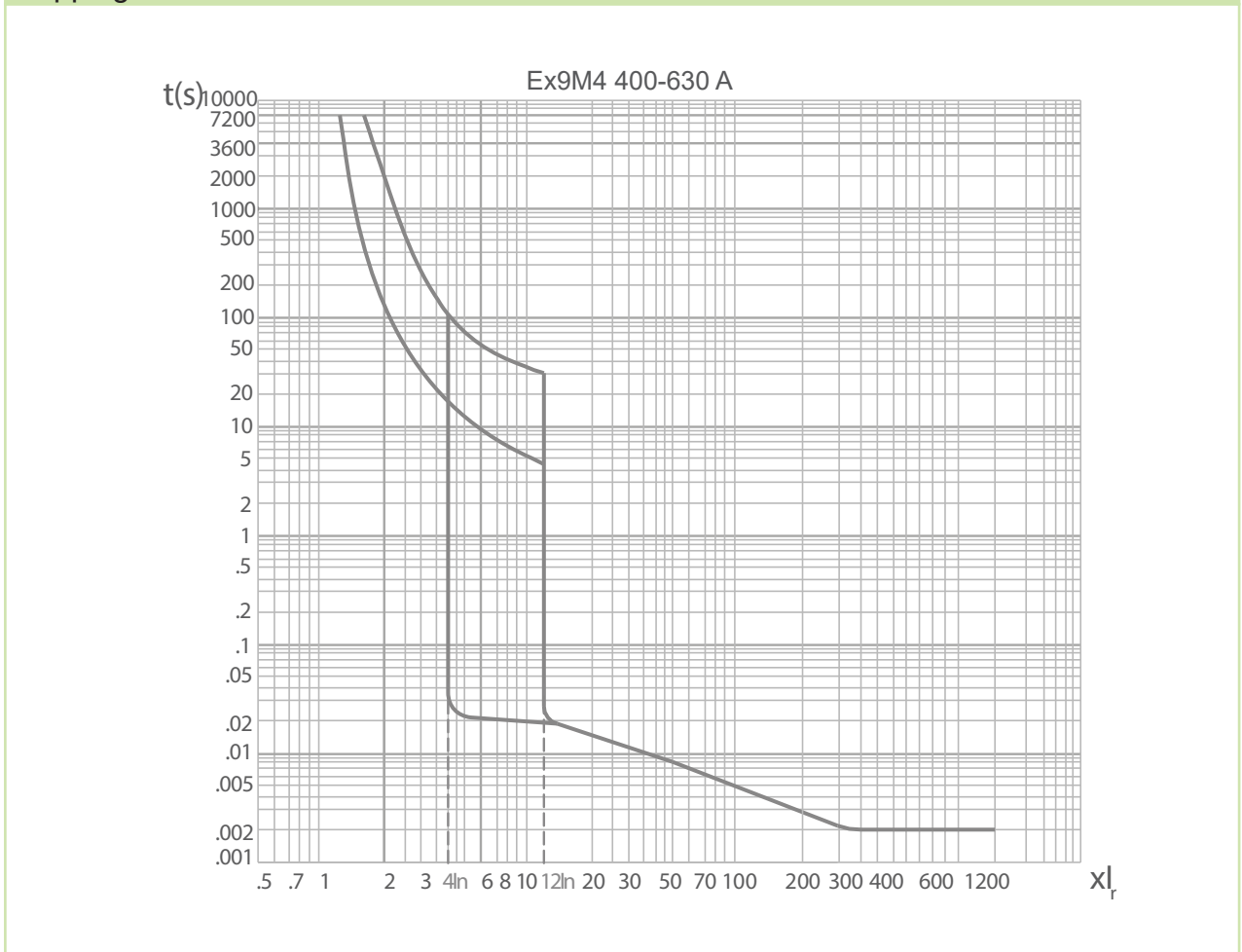
# Technical Data Ex9M4 DC TM

## DC TM Moulded Case Circuit Breakers up to 630 A

### Installation space



### Tripping characteristics



# Technical Data Ex9M5 DC TM

## DC TM Moulded Case Circuit Breakers up to 800 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  $(5 - 10) \times I_n$

$I_{IN} = I_i$

Internal accessories

Auxiliary contact unit	AX21M	112071
Alarm contact unit	AL21M	112072
Shunt trip releases	SHT24	103723-103730
Undervoltage releases	UVT24	103722-103740

Max. number of installed internal accessories is 2 pcs of AX21M, 1 pc of AL21M and 1 pc of a release (SHT24 or UVT24)

External accessories

Direct rotary handle	RHD24	103742
Extended rotary handle	ERH24	103741
Remote motor operators	MOD24	103743 — 103747
Terminal cover, short	TCV24 3P, 4P	103748, 103750
Terminal cover, long	TCE24 3P, 4P	103749, 104855
Phase barrier	PHS24	112113
Connection terminals	MC24 W2	106314
Withdrawable base	DOB24	108891, 108903, 108897, 108909

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]		
	630 A	700 A	800 A
DOB 24	0.95	0.95	0.9

# Technical Data Ex9M5 DC TM

## DC TM Moulded Case Circuit Breakers up to 800 A

### Electrical parameters

	Ex9M5B	Ex9M5S	Ex9M5N	Ex9M5Q	Ex9M5H
Tested according to	IEC/EN 60947-2				
Rated op. voltage $U_e$	750 / 1000 V DC				
Rated insulation voltage $U_i$	1 000 V				
Rated impulse withstand voltage $U_{imp}$	12 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	630 / 700 / 800 A				
Utilization category	A				
Mechanical service life	10 000 operation cycles				
Electrical service life	1 000 operation cycles / 1000 V DC				
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]		
	630 A	700 A	800 A
-40	882	980	1120
-35	866	962	1100
-25	836	927	1060
-15	804	892	1020
-5	772	857	980
0	756	840	960
10	724	805	920
20	693	770	880
30	661	735	840
40	630	700	800
50	580	670	735
60	530	645	670
70	490	575	625

### Power dissipation characteristics

$I_n$	630 A	700 A	800 A
Pole resistance (mΩ)	0.08	0.08	0.08
Pole power dissipation (W)	31.8	39.2	51.2

# Technical Data Ex9M5 DC TM

## DC TM Moulded Case Circuit Breakers up to 800 A

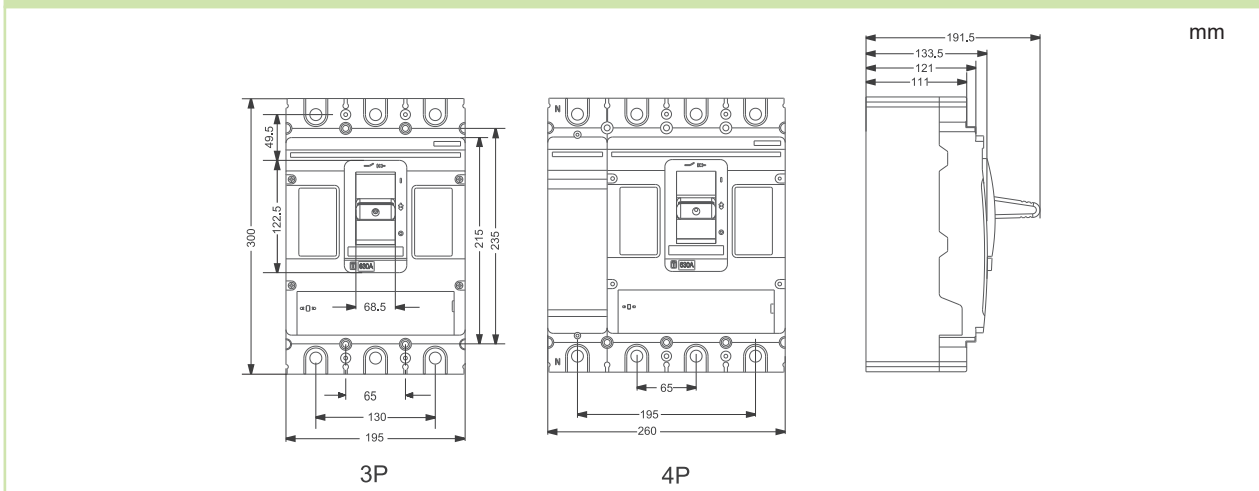
### Mechanical parameters

Device width 3P / 4P	195 mm / 260 mm
Device height	300 mm
Device depth	142 mm
Mounting	onto panel
Degree of protection	IP40, IP20 terminals
Terminals	M12 screws
Busbar thickness	≤ 10 mm
Busbar width	≤ 50 mm
Cable lug width	≤ 50 mm
Fastening torque of terminals	30 Nm
Ambient temperature	-40 — +70 °C
Relative humidity	≤ 50 % at 40 °C, ≤ 90 % monthly average
Pollution degree	3
Weight 3P / 4P	10.5 kg / 13.5 kg
Mounting position	vertical, can be rotated by 90° in each axis

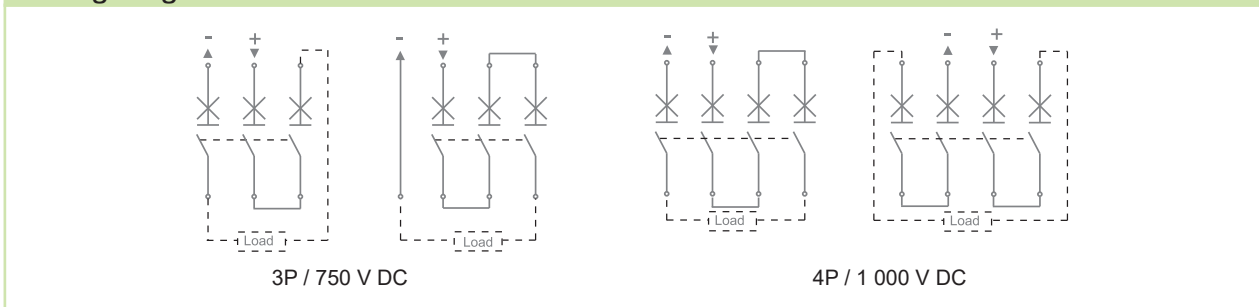
### Derating coefficient of technical parameters based on altitude

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 $U_{imp}$	12 kV	10 kV	8 kV	8 kV
Dielectric properties ( $U_{imp}=12$ kV)	3 600 V DC	3 350 V DC	3 110 V DC	2 985 V DC

### Dimensions



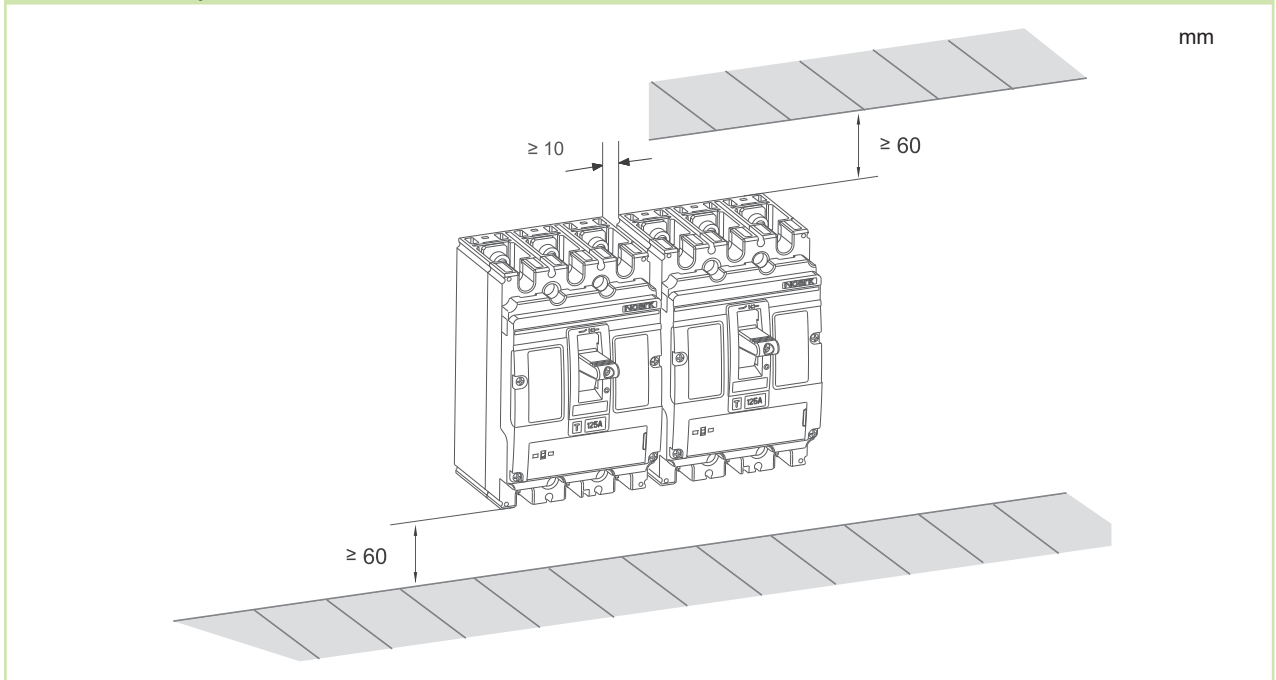
### Wiring diagram



# Technical Data Ex9M5 DC TM

## DC TM Moulded Case Circuit Breakers up to 800 A

### Installation space



### Tripping characteristics

