

Moulded Case Circuit Breakers Ex9M DC TM



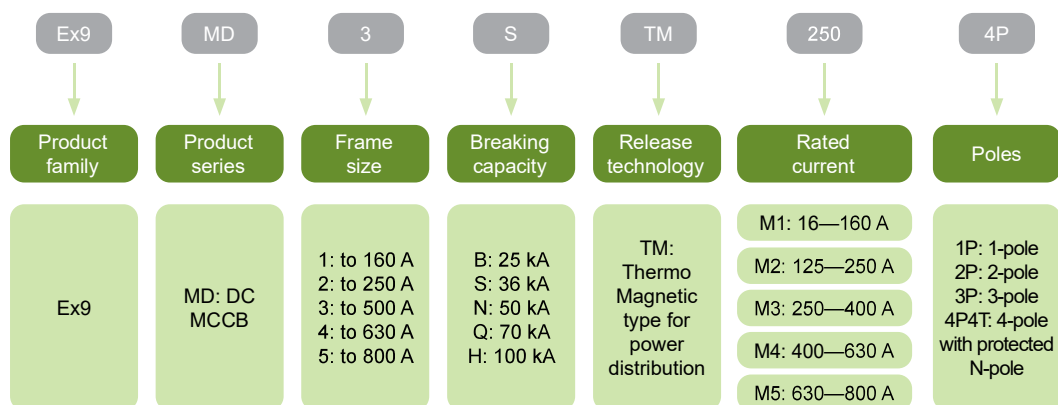
- Thermo-magnetic tripping unit for power distribution
- Frame sizes M1-M5
- Rated operating current up to 800 A
- 1, 2, 3 and 4-pole versions
- Rated ultimate short circuit breaking capacity $I_{cu}=I_{cs}$ up to 100 kA
- Rated voltage 250 V DC (1-pole), 500 V DC (2-pole), 750 V DC (3-pole) and 1000 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 functionalities and reliability for wide variety of applications including isolation.

These breakers are offered with breaking capacities from 25 kA up to extreme 100 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

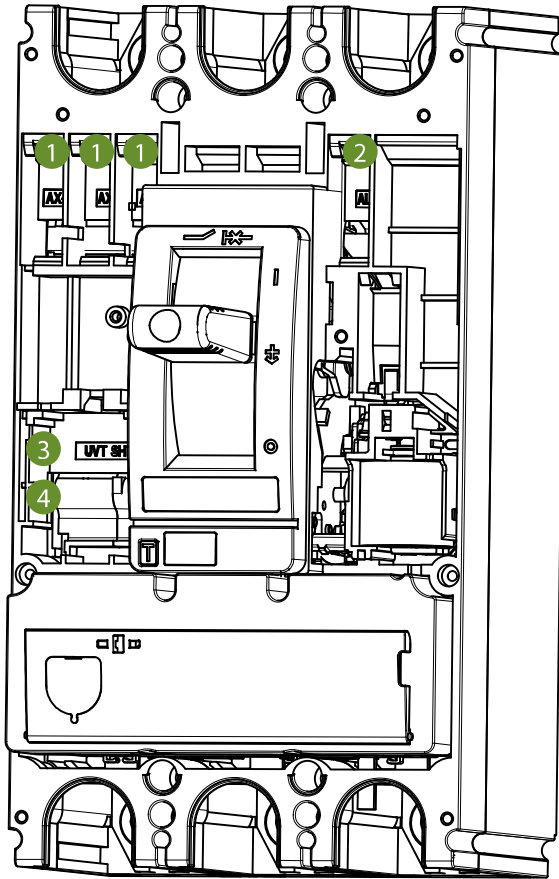


Certification marks



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.

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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



Draw-Out Base
DOB 2i F/B



Plug-In Base
PIA 2i F/B

Phase barriers PHS2i

Terminal cover, short TCV2i

Terminal cover, long TCE2i

Remote operators MOD2i

Direct rotary handles RHD2i

Extended rotary handles ERH2i

Draw-Out Base DOB 2i F/B

Plug-In Base PIA 2i F/B

Moulded Case Circuit Breakers Ex9M DC TM

External accessories Ex9M1-M5 DC TM



Tunnel terminals
MC2i W



Mounting depth spacers
WG i



Box terminals
MC2i



Screw terminals
MCS2i



Din rail adapter
DRA2i



Front plate connection
JP 2i



Rear connection plate
RCP 2i



Off position toggle key
lock
KLK 2i



Mechanical interlock
MIT 2i

Tunnel terminals MC2i W

Mounting depth spacers WG i

Box terminals MC2i

Screw terminals MCS2i

Din rail DRA2i

Front plate connection JP 2i

Rear connection plate RCP 2i

Off position toggle key lock KLK 2i

Mechanical interlock MIT 2i

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC), 2 (up to 500 V 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 (1.0) Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i (10) range not adjustable (1 and 2 Pole)
- 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 |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 16A | 16 A | 160 A | 114069 | Ex9MD1B TM 16 1P | 2/12 |
| 1 | 20A | 20 A | 200 A | 114070 | Ex9MD1B TM 20 1P | 2/12 |
| 1 | 25A | 25 A | 250 A | 114071 | Ex9MD1B TM 25 1P | 2/12 |
| 1 | 32A | 32 A | 320 A | 114072 | Ex9MD1B TM 32 1P | 2/12 |
| 1 | 40A | 40 A | 400 A | 114073 | Ex9MD1B TM 40 1P | 2/12 |
| 1 | 50A | 50 A | 500 A | 114074 | Ex9MD1B TM 50 1P | 2/12 |
| 1 | 63A | 63 A | 630 A | 114075 | Ex9MD1B TM 63 1P | 2/12 |
| 1 | 80A | 80 A | 800 A | 114076 | Ex9MD1B TM 80 1P | 2/12 |
| 1 | 100A | 100 A | 1000 A | 114077 | Ex9MD1B TM 100 1P | 2/12 |
| 1 | 125A | 125 A | 1250 A | 114078 | Ex9MD1B TM 125 1P | 2/12 |
| 1 | 160A | 160 A | 1600 A | 114079 | Ex9MD1B TM 160 1P | 2/12 |
| 2 | 16A | 11-16 A | 160 A | 114120 | Ex9MD1B TM 16 2P | 1/10 |
| 2 | 20A | 14-20 A | 200 A | 114121 | Ex9MD1B TM 20 2P | 1/10 |
| 2 | 25A | 17-25 A | 250 A | 114122 | Ex9MD1B TM 25 2P | 1/10 |
| 2 | 32A | 22-32 A | 320 A | 114123 | Ex9MD1B TM 32 2P | 1/10 |
| 2 | 40A | 28-40 A | 400 A | 114124 | Ex9MD1B TM 40 2P | 1/10 |
| 2 | 50A | 35-50 A | 500 A | 114125 | Ex9MD1B TM 50 2P | 1/10 |
| 2 | 63A | 44-63 A | 630 A | 114126 | Ex9MD1B TM 63 2P | 1/10 |
| 2 | 80A | 56-80 A | 800 A | 114127 | Ex9MD1B TM 80 2P | 1/10 |
| 2 | 100A | 70-100 A | 1000 A | 114128 | Ex9MD1B TM 100 2P | 1/10 |
| 2 | 125A | 87-125 A | 625-1250 A | 114129 | Ex9MD1B TM 125 2P | 1/10 |
| 2 | 160A | 112-160 A | 800-1600 A | 114130 | Ex9MD1B TM 160 2P | 1/10 |
| 3 | 16A | 11-16 A | 160 A | 112511 | Ex9MD1B TM 16 3P | 1/12 |
| 3 | 20A | 14-20 A | 200 A | 112512 | Ex9MD1B TM 20 3P | 1/12 |
| 3 | 25A | 17-25 A | 250 A | 112513 | Ex9MD1B TM 25 3P | 1/12 |
| 3 | 32A | 22-32 A | 320 A | 112514 | Ex9MD1B TM 32 3P | 1/12 |
| 3 | 40A | 28-40 A | 400 A | 112515 | Ex9MD1B TM 40 3P | 1/12 |
| 3 | 50A | 35-50 A | 500 A | 112516 | Ex9MD1B TM 50 3P | 1/12 |
| 3 | 63A | 44-63 A | 630 A | 112517 | Ex9MD1B TM 63 3P | 1/12 |
| 3 | 80A | 56-80 A | 800 A | 112518 | Ex9MD1B TM 80 3P | 1/12 |
| 3 | 100A | 70-100 A | 1000 A | 112519 | Ex9MD1B TM 100 3P | 1/12 |
| 3 | 125A | 87-125 A | 625-1250 A | 112520 | Ex9MD1B TM 125 3P | 1/12 |
| 3 | 160A | 112-160 A | 800-1600 A | 112521 | Ex9MD1B TM 160 3P | 1/12 |
| 4 | 16A | 11-16 A | 160 A | 112522 | Ex9MD1B TM 16 4P4T | 1/12 |
| 4 | 20A | 14-20 A | 200 A | 112523 | Ex9MD1B TM 20 4P4T | 1/12 |
| 4 | 25A | 17-25 A | 250 A | 112524 | Ex9MD1B TM 25 4P4T | 1/12 |
| 4 | 32A | 22-32 A | 320 A | 112525 | Ex9MD1B TM 32 4P4T | 1/12 |
| 4 | 40A | 28-40 A | 400 A | 112526 | Ex9MD1B TM 40 4P4T | 1/12 |
| 4 | 50A | 35-50 A | 500 A | 112527 | Ex9MD1B TM 50 4P4T | 1/12 |
| 4 | 63A | 44-63 A | 630 A | 112528 | Ex9MD1B TM 63 4P4T | 1/12 |
| 4 | 80A | 56-80 A | 800 A | 112529 | Ex9MD1B TM 80 4P4T | 1/12 |
| 4 | 100A | 70-100 A | 1000 A | 112530 | Ex9MD1B TM 100 4P4T | 1/12 |
| 4 | 125A | 87-125 A | 625-1250 A | 112531 | Ex9MD1B TM 125 4P4T | 1/12 |
| 4 | 160A | 112-160 A | 800-1600 A | 112532 | Ex9MD1B TM 160 4P4T | 1/12 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC), 2 (up to 500 V DC), 3 (up to 750 V DC) and 4-pole (up to 1 000 V DC) Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36 \text{ kA}$ at 1000 V DC
- I_r (1.0) Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i (10) range not adjustable (1 and 2 Pole)
- 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 |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 16A | 16 A | 160 A | 114080 | Ex9MD1S TM 16 1P | 2/12 |
| 1 | 20A | 20 A | 200 A | 114081 | Ex9MD1S TM 20 1P | 2/12 |
| 1 | 25A | 25 A | 250 A | 114082 | Ex9MD1S TM 25 1P | 2/12 |
| 1 | 32A | 32 A | 320 A | 114083 | Ex9MD1S TM 32 1P | 2/12 |
| 1 | 40A | 40 A | 400 A | 114084 | Ex9MD1S TM 40 1P | 2/12 |
| 1 | 50A | 50 A | 500 A | 114085 | Ex9MD1S TM 50 1P | 2/12 |
| 1 | 63A | 63 A | 630 A | 114086 | Ex9MD1S TM 63 1P | 2/12 |
| 1 | 80A | 80 A | 800 A | 114087 | Ex9MD1S TM 80 1P | 2/12 |
| 1 | 100A | 100 A | 1000 A | 114088 | Ex9MD1S TM 100 1P | 2/12 |
| 1 | 125A | 125 A | 1250 A | 114089 | Ex9MD1S TM 125 1P | 2/12 |
| 1 | 160A | 1160 A | 1600 A | 114090 | Ex9MD1S TM 160 1P | 2/12 |
| 2 | 16A | 11-16 A | 160 A | 114131 | Ex9MD1S TM 16 2P | 1/10 |
| 2 | 20A | 14-20 A | 200 A | 114132 | Ex9MD1S TM 20 2P | 1/10 |
| 2 | 25A | 17-25 A | 250 A | 114133 | Ex9MD1S TM 25 2P | 1/10 |
| 2 | 32A | 22-32 A | 320 A | 114134 | Ex9MD1S TM 32 2P | 1/10 |
| 2 | 40A | 28-40 A | 400 A | 114135 | Ex9MD1S TM 40 2P | 1/10 |
| 2 | 50A | 35-50 A | 500 A | 114136 | Ex9MD1S TM 50 2P | 1/10 |
| 2 | 63A | 44-63 A | 630 A | 114137 | Ex9MD1S TM 63 2P | 1/10 |
| 2 | 80A | 56-80 A | 800 A | 114138 | Ex9MD1S TM 80 2P | 1/10 |
| 2 | 100A | 70-100 A | 1000 A | 114139 | Ex9MD1S TM 100 2P | 1/10 |
| 2 | 125A | 87-125 A | 625-1250 A | 114140 | Ex9MD1S TM 125 2P | 1/10 |
| 2 | 160A | 112-160 A | 800-1600 A | 114141 | Ex9MD1S TM 160 2P | 1/10 |
| 3 | 16A | 11-16 A | 160 A | 112533 | Ex9MD1S TM 16 3P | 1/12 |
| 3 | 20A | 14-20 A | 200 A | 112534 | Ex9MD1S TM 20 3P | 1/12 |
| 3 | 25A | 17-25 A | 250 A | 112535 | Ex9MD1S TM 25 3P | 1/12 |
| 3 | 32A | 22-32 A | 320 A | 112536 | Ex9MD1S TM 32 3P | 1/12 |
| 3 | 40A | 28-40 A | 400 A | 112537 | Ex9MD1S TM 40 3P | 1/12 |
| 3 | 50A | 35-50 A | 500 A | 112538 | Ex9MD1S TM 50 3P | 1/12 |
| 3 | 63A | 44-63 A | 630 A | 112539 | Ex9MD1S TM 63 3P | 1/12 |
| 3 | 80A | 56-80 A | 800 A | 112540 | Ex9MD1S TM 80 3P | 1/12 |
| 3 | 100A | 70-100 A | 1000 A | 112541 | Ex9MD1S TM 100 3P | 1/12 |
| 3 | 125A | 87-125 A | 625-1250 A | 112542 | Ex9MD1S TM 125 3P | 1/12 |
| 3 | 160A | 112-160 A | 800-1600 A | 112543 | Ex9MD1S TM 160 3P | 1/12 |
| 4 | 16A | 11-16 A | 160 A | 112544 | Ex9MD1S TM 16 4P4T | 1/12 |
| 4 | 20A | 14-20 A | 200 A | 112545 | Ex9MD1S TM 20 4P4T | 1/12 |
| 4 | 25A | 17-25 A | 250 A | 112546 | Ex9MD1S TM 25 4P4T | 1/12 |
| 4 | 32A | 22-32 A | 320 A | 112547 | Ex9MD1S TM 32 4P4T | 1/12 |
| 4 | 40A | 28-40 A | 400 A | 112548 | Ex9MD1S TM 40 4P4T | 1/12 |
| 4 | 50A | 35-50 A | 500 A | 112549 | Ex9MD1S TM 50 4P4T | 1/12 |
| 4 | 63A | 44-63 A | 630 A | 112550 | Ex9MD1S TM 63 4P4T | 1/12 |
| 4 | 80A | 56-80 A | 800 A | 112551 | Ex9MD1S TM 80 4P4T | 1/12 |
| 4 | 100A | 70-100 A | 1000 A | 112552 | Ex9MD1S TM 100 4P4T | 1/12 |
| 4 | 125A | 87-125 A | 625-1250 A | 112553 | Ex9MD1S TM 125 4P4T | 1/12 |
| 4 | 160A | 112-160 A | 800-1600 A | 112554 | Ex9MD1S TM 160 4P4T | 1/12 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC), 2 (up to 500 V DC), 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
- $I_r(1.0)$ Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- $I_r(10)$ range not adjustable (1 and 2 Pole)
- 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 |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 16A | 16 A | 160 A | 114091 | Ex9MD1N TM 16 1P | 2/12 |
| 1 | 20A | 20 A | 200 A | 114092 | Ex9MD1N TM 20 1P | 2/12 |
| 1 | 25A | 25 A | 250 A | 114093 | Ex9MD1N TM 25 1P | 2/12 |
| 1 | 32A | 32 A | 320 A | 114094 | Ex9MD1N TM 32 1P | 2/12 |
| 1 | 40A | 40 A | 400 A | 114095 | Ex9MD1N TM 40 1P | 2/12 |
| 1 | 50A | 50 A | 500 A | 114096 | Ex9MD1N TM 50 1P | 2/12 |
| 1 | 63A | 63 A | 630 A | 114097 | Ex9MD1N TM 63 1P | 2/12 |
| 1 | 80A | 80 A | 800 A | 114098 | Ex9MD1N TM 80 1P | 2/12 |
| 1 | 100A | 100 A | 1000 A | 114099 | Ex9MD1N TM 100 1P | 2/12 |
| 1 | 125A | 125 A | 1250 A | 114100 | Ex9MD1N TM 125 1P | 2/12 |
| 1 | 160A | 160 A | 1600 A | 114101 | Ex9MD1N TM 160 1P | 2/12 |
| 2 | 16A | 11-16 A | 160 A | 114142 | Ex9MD1N TM 16 2P | 1/10 |
| 2 | 20A | 14-20 A | 200 A | 114143 | Ex9MD1N TM 20 2P | 1/10 |
| 2 | 25A | 17-25 A | 250 A | 114144 | Ex9MD1N TM 25 2P | 1/10 |
| 2 | 32A | 22-32 A | 320 A | 114145 | Ex9MD1N TM 32 2P | 1/10 |
| 2 | 40A | 28-40 A | 400 A | 114146 | Ex9MD1N TM 40 2P | 1/10 |
| 2 | 50A | 35-50 A | 500 A | 114147 | Ex9MD1N TM 50 2P | 1/10 |
| 2 | 63A | 44-63 A | 630 A | 114148 | Ex9MD1N TM 63 2P | 1/10 |
| 2 | 80A | 56-80 A | 800 A | 114149 | Ex9MD1N TM 80 2P | 1/10 |
| 2 | 100A | 70-100 A | 1000 A | 114150 | Ex9MD1N TM 100 2P | 1/10 |
| 2 | 125A | 87-125 A | 625-1250 A | 114151 | Ex9MD1N TM 125 2P | 1/10 |
| 2 | 160A | 112-160 A | 800-1600 A | 114152 | Ex9MD1N TM 160 2P | 1/10 |
| 3 | 16A | 11-16 A | 160 A | 112555 | Ex9MD1N TM 16 3P | 1/12 |
| 3 | 20A | 14-20 A | 200 A | 112556 | Ex9MD1N TM 20 3P | 1/12 |
| 3 | 25A | 17-25 A | 250 A | 112557 | Ex9MD1N TM 25 3P | 1/12 |
| 3 | 32A | 22-32 A | 320 A | 112558 | Ex9MD1N TM 32 3P | 1/12 |
| 3 | 40A | 28-40 A | 400 A | 112559 | Ex9MD1N TM 40 3P | 1/12 |
| 3 | 50A | 35-50 A | 500 A | 112560 | Ex9MD1N TM 50 3P | 1/12 |
| 3 | 63A | 44-63 A | 630 A | 112561 | Ex9MD1N TM 63 3P | 1/12 |
| 3 | 80A | 56-80 A | 800 A | 112562 | Ex9MD1N TM 80 3P | 1/12 |
| 3 | 100A | 70-100 A | 1000 A | 112563 | Ex9MD1N TM 100 3P | 1/12 |
| 3 | 125A | 87-125 A | 625-1250 A | 112564 | Ex9MD1N TM 125 3P | 1/12 |
| 3 | 160A | 112-160 A | 800-1600 A | 112565 | Ex9MD1N TM 160 3P | 1/12 |
| 4 | 16A | 11-16 A | 160 A | 112566 | Ex9MD1N TM 16 4P4T | 1/12 |
| 4 | 20A | 14-20 A | 200 A | 112567 | Ex9MD1N TM 20 4P4T | 1/12 |
| 4 | 25A | 17-25 A | 250 A | 112568 | Ex9MD1N TM 25 4P4T | 1/12 |
| 4 | 32A | 22-32 A | 320 A | 112569 | Ex9MD1N TM 32 4P4T | 1/12 |
| 4 | 40A | 28-40 A | 400 A | 112570 | Ex9MD1N TM 40 4P4T | 1/12 |
| 4 | 50A | 35-50 A | 500 A | 112571 | Ex9MD1N TM 50 4P4T | 1/12 |
| 4 | 63A | 44-63 A | 630 A | 112572 | Ex9MD1N TM 63 4P4T | 1/12 |
| 4 | 80A | 56-80 A | 800 A | 112573 | Ex9MD1N TM 80 4P4T | 1/12 |
| 4 | 100A | 70-100 A | 1000 A | 112574 | Ex9MD1N TM 100 4P4T | 1/12 |
| 4 | 125A | 87-125 A | 625-1250 A | 112575 | Ex9MD1N TM 125 4P4T | 1/12 |
| 4 | 160A | 112-160 A | 800-1600 A | 112576 | Ex9MD1N TM 160 4P4T | 1/12 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 2 (up to 500 V DC), 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 $(0.7 - 1.0) \times I_n$
- $I_i(10)$ range not adjustable (2 Pole)
- 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 |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 2 | 16A | 11-16 A | 160 A | 114153 | Ex9MD1Q TM 16 2P | 1/10 |
| 2 | 20A | 14-20 A | 200 A | 114154 | Ex9MD1Q TM 20 2P | 1/10 |
| 2 | 25A | 17-25 A | 250 A | 114155 | Ex9MD1Q TM 25 2P | 1/10 |
| 2 | 32A | 22-32 A | 320 A | 114156 | Ex9MD1Q TM 32 2P | 1/10 |
| 2 | 40A | 28-40 A | 400 A | 114157 | Ex9MD1Q TM 40 2P | 1/10 |
| 2 | 50A | 35-50 A | 500 A | 114158 | Ex9MD1Q TM 50 2P | 1/10 |
| 2 | 63A | 44-63 A | 630 A | 114159 | Ex9MD1Q TM 63 2P | 1/10 |
| 2 | 80A | 56-80 A | 800 A | 114160 | Ex9MD1Q TM 80 2P | 1/10 |
| 2 | 100A | 70-100 A | 1000 A | 114161 | Ex9MD1Q TM 100 2P | 1/10 |
| 2 | 125A | 87-125 A | 625-1250 A | 114162 | Ex9MD1Q TM 125 2P | 1/10 |
| 2 | 160A | 112-160 A | 800-1600 A | 114163 | Ex9MD1Q TM 160 2P | 1/10 |
| 3 | 16A | 11-16 A | 160 A | 112577 | Ex9MD1Q TM 16 3P | 1/12 |
| 3 | 20A | 14-20 A | 200 A | 112578 | Ex9MD1Q TM 20 3P | 1/12 |
| 3 | 25A | 17-25 A | 250 A | 112579 | Ex9MD1Q TM 25 3P | 1/12 |
| 3 | 32A | 22-32 A | 320 A | 112580 | Ex9MD1Q TM 32 3P | 1/12 |
| 3 | 40A | 28-40 A | 400 A | 112581 | Ex9MD1Q TM 40 3P | 1/12 |
| 3 | 50A | 35-50 A | 500 A | 112582 | Ex9MD1Q TM 50 3P | 1/12 |
| 3 | 63A | 44-63 A | 630 A | 112583 | Ex9MD1Q TM 63 3P | 1/12 |
| 3 | 80A | 56-80 A | 800 A | 112584 | Ex9MD1Q TM 80 3P | 1/12 |
| 3 | 100A | 70-100 A | 1000 A | 112585 | Ex9MD1Q TM 100 3P | 1/12 |
| 3 | 125A | 87-125 A | 625-1250 A | 112586 | Ex9MD1Q TM 125 3P | 1/12 |
| 3 | 160A | 112-160 A | 800-1600 A | 112587 | Ex9MD1Q TM 160 3P | 1/12 |
| 4 | 16A | 11-16 A | 160 A | 112588 | Ex9MD1Q TM 16 4P4T | 1/12 |
| 4 | 20A | 14-20 A | 200 A | 112589 | Ex9MD1Q TM 20 4P4T | 1/12 |
| 4 | 25A | 17-25 A | 250 A | 112590 | Ex9MD1Q TM 25 4P4T | 1/12 |
| 4 | 32A | 22-32 A | 320 A | 112591 | Ex9MD1Q TM 32 4P4T | 1/12 |
| 4 | 40A | 28-40 A | 400 A | 112592 | Ex9MD1Q TM 40 4P4T | 1/12 |
| 4 | 50A | 35-50 A | 500 A | 112593 | Ex9MD1Q TM 50 4P4T | 1/12 |
| 4 | 63A | 44-63 A | 630 A | 112594 | Ex9MD1Q TM 63 4P4T | 1/12 |
| 4 | 80A | 56-80 A | 800 A | 112595 | Ex9MD1Q TM 80 4P4T | 1/12 |
| 4 | 100A | 70-100 A | 1000 A | 112596 | Ex9MD1Q TM 100 4P4T | 1/12 |
| 4 | 125A | 87-125 A | 625-1250 A | 112597 | Ex9MD1Q TM 125 4P4T | 1/12 |
| 4 | 160A | 112-160 A | 800-1600 A | 112598 | Ex9MD1Q TM 160 4P4T | 1/12 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 2 (up to 500 V DC), 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 $(0.7 - 1.0) \times I_n$
- $I_r(10)$ range not adjustable (2 Pole)
- 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 |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 2 | 16A | 11-16 A | 160 A | 114164 | Ex9MD1H TM 16 2P | 1/10 |
| 2 | 20A | 14-20 A | 200 A | 114165 | Ex9MD1H TM 20 2P | 1/10 |
| 2 | 25A | 17-25 A | 250 A | 114166 | Ex9MD1H TM 25 2P | 1/10 |
| 2 | 32A | 22-32 A | 320 A | 114167 | Ex9MD1H TM 32 2P | 1/10 |
| 2 | 40A | 28-40 A | 400 A | 114168 | Ex9MD1H TM 40 2P | 1/10 |
| 2 | 50A | 35-50 A | 500 A | 114169 | Ex9MD1H TM 50 2P | 1/10 |
| 2 | 63A | 44-63 A | 630 A | 114170 | Ex9MD1H TM 63 2P | 1/10 |
| 2 | 80A | 56-80 A | 800 A | 114171 | Ex9MD1H TM 80 2P | 1/10 |
| 2 | 100A | 70-100 A | 1000 A | 114172 | Ex9MD1H TM 100 2P | 1/10 |
| 2 | 125A | 87-125 A | 625-1250 A | 114173 | Ex9MD1H TM 125 2P | 1/10 |
| 2 | 160A | 112-160 A | 800-1600 A | 114174 | Ex9MD1H TM 160 2P | 1/10 |
| 3 | 16A | 11-16 A | 160 A | 112599 | Ex9MD1H TM 16 3P | 1/12 |
| 3 | 20A | 14-20 A | 200 A | 112600 | Ex9MD1H TM 20 3P | 1/12 |
| 3 | 25A | 17-25 A | 250 A | 112601 | Ex9MD1H TM 25 3P | 1/12 |
| 3 | 32A | 22-32 A | 320 A | 112602 | Ex9MD1H TM 32 3P | 1/12 |
| 3 | 40A | 28-40 A | 400 A | 112603 | Ex9MD1H TM 40 3P | 1/12 |
| 3 | 50A | 35-50 A | 500 A | 112604 | Ex9MD1H TM 50 3P | 1/12 |
| 3 | 63A | 44-63 A | 630 A | 112605 | Ex9MD1H TM 63 3P | 1/12 |
| 3 | 80A | 56-80 A | 800 A | 112606 | Ex9MD1H TM 80 3P | 1/12 |
| 3 | 100A | 70-100 A | 1000 A | 112607 | Ex9MD1H TM 100 3P | 1/12 |
| 3 | 125A | 87-125 A | 625-1250 A | 112608 | Ex9MD1H TM 125 3P | 1/12 |
| 3 | 160A | 112-160 A | 800-1600 A | 112609 | Ex9MD1H TM 160 3P | 1/12 |
| 4 | 16A | 11-16 A | 160 A | 112610 | Ex9MD1H TM 16 4P4T | 1/12 |
| 4 | 20A | 14-20 A | 200 A | 112611 | Ex9MD1H TM 20 4P4T | 1/12 |
| 4 | 25A | 17-25 A | 250 A | 112612 | Ex9MD1H TM 25 4P4T | 1/12 |
| 4 | 32A | 22-32 A | 320 A | 112613 | Ex9MD1H TM 32 4P4T | 1/12 |
| 4 | 40A | 28-40 A | 400 A | 112614 | Ex9MD1H TM 40 4P4T | 1/12 |
| 4 | 50A | 35-50 A | 500 A | 112615 | Ex9MD1H TM 50 4P4T | 1/12 |
| 4 | 63A | 44-63 A | 630 A | 112616 | Ex9MD1H TM 63 4P4T | 1/12 |
| 4 | 80A | 56-80 A | 800 A | 112617 | Ex9MD1H TM 80 4P4T | 1/12 |
| 4 | 100A | 70-100 A | 1000 A | 112618 | Ex9MD1H TM 100 4P4T | 1/12 |
| 4 | 125A | 87-125 A | 625-1250 A | 112619 | Ex9MD1H TM 125 4P4T | 1/12 |
| 4 | 160A | 112-160 A | 800-1600 A | 112620 | Ex9MD1H TM 160 4P4T | 1/12 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC) 2 (up to 500 V 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 (1.0) Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_r (10) range not adjustable (1 and 2 Pole)
- 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 | Overcurrent release I_r | instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 125 A | 125 A | 1250 A | 114102 | Ex9MD2B TM 125 1P | 2/16 |
| 1 | 160 A | 160 A | 1600 A | 114103 | Ex9MD2B TM 160 1P | 2/16 |
| 1 | 180 A | 180 A | 1800 A | 114104 | Ex9MD2B TM 180 1P | 2/16 |
| 1 | 200 A | 200 A | 2000 A | 114105 | Ex9MD2B TM 200 1P | 2/16 |
| 1 | 225 A | 225 A | 2250 A | 114106 | Ex9MD2B TM 225 1P | 2/16 |
| 1 | 250 A | 250 A | 2500 A | 114107 | Ex9MD2B TM 250 1P | 2/16 |
| 2 | 125 A | 87-125 A | 875-1500 A | 114175 | Ex9MD2B TM 125 2P | 1/8 |
| 2 | 160 A | 112-160 A | 800-1600 A | 114176 | Ex9MD2B TM 160 2P | 1/8 |
| 2 | 180 A | 126-180 A | 900-1800 A | 114177 | Ex9MD2B TM 180 2P | 1/8 |
| 2 | 200 A | 140-200 A | 1000-2000 A | 114178 | Ex9MD2B TM 200 2P | 1/8 |
| 2 | 225 A | 158-225 A | 1125-2250 A | 114179 | Ex9MD2B TM 225 2P | 1/8 |
| 2 | 250 A | 175-250 A | 1250-2500 A | 114180 | Ex9MD2B TM 250 2P | 1/8 |
| 3 | 125 A | 87-125 A | 875-1500 A | 112621 | Ex9MD2B TM 125 3P | 1/8 |
| 3 | 160 A | 112-160 A | 800-1600 A | 112622 | Ex9MD2B TM 160 3P | 1/8 |
| 3 | 180 A | 126-180 A | 900-1800 A | 112623 | Ex9MD2B TM 180 3P | 1/8 |
| 3 | 200 A | 140-200 A | 1000-2000 A | 112624 | Ex9MD2B TM 200 3P | 1/8 |
| 3 | 225 A | 158-225 A | 1125-2250 A | 112625 | Ex9MD2B TM 225 3P | 1/8 |
| 3 | 250 A | 175-250 A | 1250-2500 A | 112626 | Ex9MD2B TM 250 3P | 1/8 |
| 4 | 125 A | 87-125 A | 875-1500 A | 112627 | Ex9MD2B TM 125 4P4T | 1/8 |
| 4 | 160 A | 112-160 A | 800-1600 A | 112628 | Ex9MD2B TM 160 4P4T | 1/8 |
| 4 | 180 A | 126-180 A | 900-1800 A | 112629 | Ex9MD2B TM 180 4P4T | 1/8 |
| 4 | 200 A | 140-200 A | 1000-2000 A | 112630 | Ex9MD2B TM 200 4P4T | 1/8 |
| 4 | 225 A | 158-225 A | 1125-2250 A | 112631 | Ex9MD2B TM 225 4P4T | 1/8 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112632 | Ex9MD2B TM 250 4P4T | 1/8 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC), 2 (up to 500 V 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 (1.0) Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_r (10) range not adjustable (1 and 2 Pole)
- 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 | Overcurrent release I_r | instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 125 A | 125 A | 1250 A | 114108 | Ex9MD2S TM 125 1P | 2/16 |
| 1 | 160 A | 160 A | 1600 A | 114109 | Ex9MD2S TM 160 1P | 2/16 |
| 1 | 180 A | 180 A | 1800 A | 114110 | Ex9MD2S TM 180 1P | 2/16 |
| 1 | 200 A | 200 A | 2000 A | 114111 | Ex9MD2S TM 200 1P | 2/16 |
| 1 | 225 A | 225 A | 2250 A | 114112 | Ex9MD2S TM 225 1P | 2/16 |
| 1 | 250 A | 250 A | 2500 A | 114113 | Ex9MD2S TM 250 1P | 2/16 |
| 2 | 125 A | 87-125 A | 875-1500 A | 114181 | Ex9MD2S TM 125 2P | 1/8 |
| 2 | 160 A | 112-160 A | 800-1600 A | 114182 | Ex9MD2S TM 160 2P | 1/8 |
| 2 | 180 A | 126-180 A | 900-1800 A | 114183 | Ex9MD2S TM 180 2P | 1/8 |
| 2 | 200 A | 140-200 A | 1000-2000 A | 114184 | Ex9MD2S TM 200 2P | 1/8 |
| 2 | 225 A | 158-225 A | 1125-2250 A | 114185 | Ex9MD2S TM 225 2P | 1/8 |
| 2 | 250 A | 175-250 A | 1250-2500 A | 114186 | Ex9MD2S TM 250 2P | 1/8 |
| 3 | 125 A | 87-125 A | 875-1500 A | 112633 | Ex9MD2S TM 125 3P | 1/8 |
| 3 | 160 A | 112-160 A | 800-1600 A | 112634 | Ex9MD2S TM 160 3P | 1/8 |
| 3 | 180 A | 126-180 A | 900-1800 A | 112635 | Ex9MD2S TM 180 3P | 1/8 |
| 3 | 200 A | 140-200 A | 1000-2000 A | 112636 | Ex9MD2S TM 200 3P | 1/8 |
| 3 | 225 A | 158-225 A | 1125-2250 A | 112637 | Ex9MD2S TM 225 3P | 1/8 |
| 3 | 250 A | 175-250 A | 1250-2500 A | 112638 | Ex9MD2S TM 250 3P | 1/8 |
| 4 | 125 A | 87-125 A | 875-1500 A | 112639 | Ex9MD2S TM 125 4P4T | 1/8 |
| 4 | 160 A | 112-160 A | 800-1600 A | 112640 | Ex9MD2S TM 160 4P4T | 1/8 |
| 4 | 180 A | 126-180 A | 900-1800 A | 112641 | Ex9MD2S TM 180 4P4T | 1/8 |
| 4 | 200 A | 140-200 A | 1000-2000 A | 112642 | Ex9MD2S TM 200 4P4T | 1/8 |
| 4 | 225 A | 158-225 A | 1125-2250 A | 112643 | Ex9MD2S TM 225 4P4T | 1/8 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112644 | Ex9MD2S TM 250 4P4T | 1/8 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 1 (up to 250 V DC), 2 (up to 500 V DC), 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_n (1.0) Not adjustable (1 Pole)
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_r (10) range not adjustable (1 and 2 Pole)
- 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 | Overcurrent release I_r | instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 1 | 125 A | 125 A | 1250 A | 114114 | Ex9MD2N TM 125 1P | 2/16 |
| 1 | 160 A | 160 A | 1600 A | 114115 | Ex9MD2N TM 160 1P | 2/16 |
| 1 | 180 A | 180 A | 1800 A | 114116 | Ex9MD2N TM 180 1P | 2/16 |
| 1 | 200 A | 200 A | 2000 A | 114117 | Ex9MD2N TM 200 1P | 2/16 |
| 1 | 225 A | 225 A | 2250 A | 114118 | Ex9MD2N TM 225 1P | 2/16 |
| 1 | 250 A | 250 A | 2500 A | 114119 | Ex9MD2N TM 250 1P | 2/16 |
| 2 | 125 A | 87-125 A | 875-1500 A | 114187 | Ex9MD2N TM 125 2P | 1/8 |
| 2 | 160 A | 112-160 A | 800-1600 A | 114188 | Ex9MD2N TM 160 2P | 1/8 |
| 2 | 180 A | 126-180 A | 900-1800 A | 114189 | Ex9MD2N TM 180 2P | 1/8 |
| 2 | 200 A | 140-200 A | 1000-2000 A | 114190 | Ex9MD2N TM 200 2P | 1/8 |
| 2 | 225 A | 158-225 A | 1125-2250 A | 114191 | Ex9MD2N TM 225 2P | 1/8 |
| 2 | 250 A | 175-250 A | 1250-2500 A | 114192 | Ex9MD2N TM 250 2P | 1/8 |
| 3 | 125 A | 87-125 A | 875-1500 A | 112645 | Ex9MD2N TM 125 3P | 1/8 |
| 3 | 160 A | 112-160 A | 800-1600 A | 112646 | Ex9MD2N TM 160 3P | 1/8 |
| 3 | 180 A | 126-180 A | 900-1800 A | 112647 | Ex9MD2N TM 180 3P | 1/8 |
| 3 | 200 A | 140-200 A | 1000-2000 A | 112648 | Ex9MD2N TM 200 3P | 1/8 |
| 3 | 225 A | 158-225 A | 1125-2250 A | 112649 | Ex9MD2N TM 225 3P | 1/8 |
| 3 | 250 A | 175-250 A | 1250-2500 A | 112650 | Ex9MD2N TM 250 3P | 1/8 |
| 4 | 125 A | 87-125 A | 875-1500 A | 112651 | Ex9MD2N TM 125 4P4T | 1/8 |
| 4 | 160 A | 112-160 A | 800-1600 A | 112652 | Ex9MD2N TM 160 4P4T | 1/8 |
| 4 | 180 A | 126-180 A | 900-1800 A | 112653 | Ex9MD2N TM 180 4P4T | 1/8 |
| 4 | 200 A | 140-200 A | 1000-2000 A | 112654 | Ex9MD2N TM 200 4P4T | 1/8 |
| 4 | 225 A | 158-225 A | 1125-2250 A | 112655 | Ex9MD2N TM 225 4P4T | 1/8 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112656 | Ex9MD2N TM 250 4P4T | 1/8 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 2 (up to 500 V DC), 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_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 | Overcurrent release I_r | instant. release I_i | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 2 | 125 A | 87-125 A | 875-1500 A | 114193 | Ex9MD2Q TM 125 2P | 1/8 |
| 2 | 160 A | 112-160 A | 800-1600 A | 114194 | Ex9MD2Q TM 160 2P | 1/8 |
| 2 | 180 A | 126-180 A | 900-1800 A | 114195 | Ex9MD2Q TM 180 2P | 1/8 |
| 2 | 200 A | 140-200 A | 1000-2000 A | 114196 | Ex9MD2Q TM 200 2P | 1/8 |
| 2 | 225 A | 158-225 A | 1125-2250 A | 114197 | Ex9MD2Q TM 225 2P | 1/8 |
| 2 | 250 A | 175-250 A | 1250-2500 A | 114198 | Ex9MD2Q TM 250 2P | 1/8 |
| 3 | 125 A | 87-125 A | 875-1500 A | 112657 | Ex9MD2Q TM 125 3P | 1/8 |
| 3 | 160 A | 112-160 A | 800-1600 A | 112658 | Ex9MD2Q TM 160 3P | 1/8 |
| 3 | 180 A | 126-180 A | 900-1800 A | 112659 | Ex9MD2Q TM 180 3P | 1/8 |
| 3 | 200 A | 140-200 A | 1000-2000 A | 112660 | Ex9MD2Q TM 200 3P | 1/8 |
| 3 | 225 A | 158-225 A | 1125-2250 A | 112661 | Ex9MD2Q TM 225 3P | 1/8 |
| 3 | 250 A | 175-250 A | 1250-2500 A | 112662 | Ex9MD2Q TM 250 3P | 1/8 |
| 4 | 125 A | 87-125 A | 875-1500 A | 112663 | Ex9MD2Q TM 125 4P4T | 1/8 |
| 4 | 160 A | 112-160 A | 800-1600 A | 112664 | Ex9MD2Q TM 160 4P4T | 1/8 |
| 4 | 180 A | 126-180 A | 900-1800 A | 112665 | Ex9MD2Q TM 180 4P4T | 1/8 |
| 4 | 200 A | 140-200 A | 1000-2000 A | 112666 | Ex9MD2Q TM 200 4P4T | 1/8 |
| 4 | 225 A | 158-225 A | 1125-2250 A | 112667 | Ex9MD2Q TM 225 4P4T | 1/8 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112668 | Ex9MD2Q TM 250 4P4T | 1/8 |

Moulded Case Circuit Breakers Ex9M DC TM

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

- 2 (up to 500 V DC), 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_l 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_l | Article No. | Type | Packing |
|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| 2 | 125 A | 87-125 A | 875-1500 A | 114199 | Ex9MD2H TM 125 2P | 1/8 |
| 2 | 160 A | 112-160 A | 800-1600 A | 114200 | Ex9MD2H TM 160 2P | 1/8 |
| 2 | 180 A | 126-180 A | 900-1800 A | 114201 | Ex9MD2H TM 180 2P | 1/8 |
| 2 | 200 A | 140-200 A | 1000-2000 A | 114202 | Ex9MD2H TM 200 2P | 1/8 |
| 2 | 225 A | 158-225 A | 1125-2250 A | 114203 | Ex9MD2H TM 225 2P | 1/8 |
| 2 | 250 A | 175-250 A | 1250-2500 A | 114204 | Ex9MD2H TM 250 2P | 1/8 |
| 3 | 125 A | 87-125 A | 875-1500 A | 112669 | Ex9MD2H TM 125 3P | 1/8 |
| 3 | 160 A | 112-160 A | 800-1600 A | 112670 | Ex9MD2H TM 160 3P | 1/8 |
| 3 | 180 A | 126-180 A | 900-1800 A | 112671 | Ex9MD2H TM 180 3P | 1/8 |
| 3 | 200 A | 140-200 A | 1000-2000 A | 112672 | Ex9MD2H TM 200 3P | 1/8 |
| 3 | 225 A | 158-225 A | 1125-2250 A | 112673 | Ex9MD2H TM 225 3P | 1/8 |
| 3 | 250 A | 175-250 A | 1250-2500 A | 112674 | Ex9MD2H TM 250 3P | 1/8 |
| 4 | 125 A | 87-125 A | 875-1500 A | 112675 | Ex9MD2H TM 125 4P4T | 1/8 |
| 4 | 160 A | 112-160 A | 800-1600 A | 112676 | Ex9MD2H TM 160 4P4T | 1/8 |
| 4 | 180 A | 126-180 A | 900-1800 A | 112677 | Ex9MD2H TM 180 4P4T | 1/8 |
| 4 | 200 A | 140-200 A | 1000-2000 A | 112678 | Ex9MD2H TM 200 4P4T | 1/8 |
| 4 | 225 A | 158-225 A | 1125-2250 A | 112679 | Ex9MD2H TM 225 4P4T | 1/8 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112680 | Ex9MD2H TM 250 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_r 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 250 3P | 1/2 |
| 3 | 315 A | 220-315 A | 1575-3150 A | 112682 | Ex9MD3B TM 315 3P | 1/2 |
| 3 | 350 A | 245-350 A | 1750-3500 A | 112683 | Ex9MD3B TM 350 3P | 1/2 |
| 3 | 400 A | 280-400 A | 2000-4000 A | 112684 | Ex9MD3B TM 400 3P | 1/2 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112685 | Ex9MD3B TM 250 4P4T | 1/2 |
| 4 | 315 A | 220-315 A | 1575-3150 A | 112686 | Ex9MD3B TM 315 4P4T | 1/2 |
| 4 | 350 A | 245-350 A | 1750-3500 A | 112687 | Ex9MD3B TM 350 4P4T | 1/2 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112688 | Ex9MD3B TM 400 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_r 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 250 3P | 1/2 |
| 3 | 315 A | 220-315 A | 1575-3150 A | 112690 | Ex9MD3S TM 315 3P | 1/2 |
| 3 | 350 A | 245-350 A | 1750-3500 A | 112691 | Ex9MD3S TM 350 3P | 1/2 |
| 3 | 400 A | 280-400 A | 2000-4000 A | 112692 | Ex9MD3S TM 400 3P | 1/2 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112693 | Ex9MD3S TM 250 4P4T | 1/2 |
| 4 | 315 A | 220-315 A | 1575-3150 A | 112694 | Ex9MD3S TM 315 4P4T | 1/2 |
| 4 | 350 A | 245-350 A | 1750-3500 A | 112695 | Ex9MD3S TM 350 4P4T | 1/2 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112696 | Ex9MD3S TM 400 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_r 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 250 3P | 1/2 |
| 3 | 315 A | 220-315 A | 1575-3150 A | 112698 | Ex9MD3N TM 315 3P | 1/2 |
| 3 | 350 A | 245-350 A | 1750-3500 A | 112699 | Ex9MD3N TM 350 3P | 1/2 |
| 3 | 400 A | 280-400 A | 2000-4000 A | 112700 | Ex9MD3N TM 400 3P | 1/2 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112701 | Ex9MD3N TM 250 4P4T | 1/2 |
| 4 | 315 A | 220-315 A | 1575-3150 A | 112702 | Ex9MD3N TM 315 4P4T | 1/2 |
| 4 | 350 A | 245-350 A | 1750-3500 A | 112703 | Ex9MD3N TM 350 4P4T | 1/2 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112704 | Ex9MD3N TM 400 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 250 3P | 1/2 |
| 3 | 315 A | 220-315 A | 1575-3150 A | 112706 | Ex9MD3Q TM 315 3P | 1/2 |
| 3 | 350 A | 245-350 A | 1750-3500 A | 112707 | Ex9MD3Q TM 350 3P | 1/2 |
| 3 | 400 A | 280-400 A | 2000-4000 A | 112708 | Ex9MD3Q TM 400 3P | 1/2 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112709 | Ex9MD3Q TM 250 4P4T | 1/2 |
| 4 | 315 A | 220-315 A | 1575-3150 A | 112710 | Ex9MD3Q TM 315 4P4T | 1/2 |
| 4 | 350 A | 245-350 A | 1750-3500 A | 112711 | Ex9MD3Q TM 350 4P4T | 1/2 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112712 | Ex9MD3Q TM 400 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 250 3P | 1/2 |
| 3 | 315 A | 220-315 A | 1575-3150 A | 112714 | Ex9MD3H TM 315 3P | 1/2 |
| 3 | 350 A | 245-350 A | 1750-3500 A | 112715 | Ex9MD3H TM 350 3P | 1/2 |
| 3 | 400 A | 280-400 A | 2000-4000 A | 112716 | Ex9MD3H TM 400 3P | 1/2 |
| 4 | 250 A | 175-250 A | 1250-2500 A | 112717 | Ex9MD3H TM 250 4P4T | 1/2 |
| 4 | 315 A | 220-315 A | 1575-3150 A | 112718 | Ex9MD3H TM 315 4P4T | 1/2 |
| 4 | 350 A | 245-350 A | 1750-3500 A | 112719 | Ex9MD3H TM 350 4P4T | 1/2 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112720 | Ex9MD3H TM 400 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_r 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 400 3P | 1/1 |
| 3 | 500 A | 350-500 A | 2500-5000 A | 112722 | Ex9MD4B TM 500 3P | 1/1 |
| 3 | 630 A | 441-630 A | 3150-6300 A | 112723 | Ex9MD4B TM 630 3P | 1/1 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112724 | Ex9MD4B TM 400 4P4T | 1/1 |
| 4 | 500 A | 350-500 A | 2500-5000 A | 112725 | Ex9MD4B TM 500 4P4T | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112726 | Ex9MD4B TM 630 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_r 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 400 3P | 1/1 |
| 3 | 500 A | 350-500 A | 2500-5000 A | 112728 | Ex9MD4S TM 500 3P | 1/1 |
| 3 | 630 A | 441-630 A | 3150-6300 A | 112729 | Ex9MD4S TM 630 3P | 1/1 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112730 | Ex9MD4S TM 400 4P4T | 1/1 |
| 4 | 500 A | 350-500 A | 2500-5000 A | 112731 | Ex9MD4S TM 500 4P4T | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112732 | Ex9MD4S TM 630 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_r 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 400 3P | 1/1 |
| 3 | 500 A | 350-500 A | 2500-5000 A | 112734 | Ex9MD4N TM 500 3P | 1/1 |
| 3 | 630 A | 441-630 A | 3150-6300 A | 112735 | Ex9MD4N TM 630 3P | 1/1 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112736 | Ex9MD4N TM 400 4P4T | 1/1 |
| 4 | 500 A | 350-500 A | 2500-5000 A | 112737 | Ex9MD4N TM 500 4P4T | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112738 | Ex9MD4N TM 630 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 400 3P | 1/1 |
| 3 | 500 A | 350-500 A | 2500-5000 A | 112740 | Ex9MD4Q TM 500 3P | 1/1 |
| 3 | 630 A | 441-630 A | 3150-6300 A | 112741 | Ex9MD4Q TM 630 3P | 1/1 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112742 | Ex9MD4Q TM 400 4P4T | 1/1 |
| 4 | 500 A | 350-500 A | 2500-5000 A | 112743 | Ex9MD4Q TM 500 4P4T | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112744 | Ex9MD4Q TM 630 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 400 3P | 1/1 |
| 3 | 500 A | 350-500 A | 2500-5000 A | 112746 | Ex9MD4H TM 500 3P | 1/1 |
| 3 | 630 A | 441-630 A | 3150-6300 A | 112747 | Ex9MD4H TM 630 3P | 1/1 |
| 4 | 400 A | 280-400 A | 2000-4000 A | 112748 | Ex9MD4H TM 400 4P4T | 1/1 |
| 4 | 500 A | 350-500 A | 2500-5000 A | 112749 | Ex9MD4H TM 500 4P4T | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112750 | Ex9MD4H TM 630 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_f 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_f | Article No. | Type | Packing |
|--|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| | 3 | 630 A | 441-630 A | 3150-6300 A | 112751 | Ex9MD5B TM 630 3P | 1/1 |
| | 3 | 700 A | 490-700 A | 3500-7000 A | 112752 | Ex9MD5B TM 700 3P | 1/1 |
| | 3 | 800 A | 560-800 A | 4000-8000 A | 112753 | Ex9MD5B TM 800 3P | 1/1 |
| | 4 | 630 A | 441-630 A | 3150-6300 A | 112754 | Ex9MD5B TM 630 4P4T | 1/1 |
| | 4 | 700 A | 490-700 A | 3500-7000 A | 112755 | Ex9MD5B TM 700 4P4T | 1/1 |
| | 4 | 800 A | 560-800 A | 4000-8000 A | 112756 | Ex9MD5B TM 800 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_f 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_f | Article No. | Type | Packing |
|--|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| | 3 | 630 A | 441-630 A | 3150-6300 A | 112757 | Ex9MD5S TM 630 3P | 1/1 |
| | 3 | 700 A | 490-700 A | 3500-7000 A | 112758 | Ex9MD5S TM 700 3P | 1/1 |
| | 3 | 800 A | 560-800 A | 4000-8000 A | 112759 | Ex9MD5S TM 800 3P | 1/1 |
| | 4 | 630 A | 441-630 A | 3150-6300 A | 112760 | Ex9MD5S TM 630 4P4T | 1/1 |
| | 4 | 700 A | 490-700 A | 3500-7000 A | 112761 | Ex9MD5S TM 700 4P4T | 1/1 |
| | 4 | 800 A | 560-800 A | 4000-8000 A | 112762 | Ex9MD5S TM 800 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_f 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_f | Article No. | Type | Packing |
|--|-------|---------------------|---------------------------|------------------------|-------------|---------------------|---------|
| | 3 | 630 A | 441-630 A | 3150-6300 A | 112763 | Ex9MD5N TM 630 3P | 1/1 |
| | 3 | 700 A | 490-700 A | 3500-7000 A | 112764 | Ex9MD5N TM 700 3P | 1/1 |
| | 3 | 800 A | 560-800 A | 4000-8000 A | 112765 | Ex9MD5N TM 800 3P | 1/1 |
| | 4 | 630 A | 441-630 A | 3150-6300 A | 112766 | Ex9MD5N TM 630 4P4T | 1/1 |
| | 4 | 700 A | 490-700 A | 3500-7000 A | 112767 | Ex9MD5N TM 700 4P4T | 1/1 |
| | 4 | 800 A | 560-800 A | 4000-8000 A | 112768 | Ex9MD5N TM 800 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 630 3P | 1/1 |
| 3 | 700 A | 490-700 A | 3500-7000 A | 112770 | Ex9MD5Q TM 700 3P | 1/1 |
| 3 | 800 A | 560-800 A | 4000-8000 A | 112771 | Ex9MD5Q TM 800 3P | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112772 | Ex9MD5Q TM 630 4P4T | 1/1 |
| 4 | 700 A | 490-700 A | 3500-7000 A | 112773 | Ex9MD5Q TM 700 4P4T | 1/1 |
| 4 | 800 A | 560-800 A | 4000-8000 A | 112774 | Ex9MD5Q TM 800 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 630 3P | 1/1 |
| 3 | 700 A | 490-700 A | 3500-7000 A | 112776 | Ex9MD5H TM 700 3P | 1/1 |
| 3 | 800 A | 560-800 A | 4000-8000 A | 112777 | Ex9MD5H TM 800 3P | 1/1 |
| 4 | 630 A | 441-630 A | 3150-6300 A | 112778 | Ex9MD5H TM 630 4P4T | 1/1 |
| 4 | 700 A | 490-700 A | 3500-7000 A | 112779 | Ex9MD5H TM 700 4P4T | 1/1 |
| 4 | 800 A | 560-800 A | 4000-8000 A | 112780 | Ex9MD5H TM 800 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 (1.0) Not adjustable (1 Pole)

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

I_r (10) range not adjustable (1 Pole)

I_r can be set in range $(5 — 10) \times I_n$ for 125 A and 160 A types (3 and 4 Pole) , otherwise is fixed at $10 \times I_n$

$I_{\Delta n}$ 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, 101412, 112079, 101425 |
| Terminal cover, short | TCV21 3P, 4P | 101439, 102372 |
| Terminal cover, long | TCE21 3P, 4P | 101440, 102373 |
| Phase barrier | PHS21 | 112110 |
| Box terminals | MC21 | 103705 |
| Screw Terminal | MCS21 | 107873 |
| Tunnel terminal | MC21 W | 103707 |
| DIN-rail adapter | DRA21 | 106319 |
| Plug-in base | PIA 21 | 112875, 112876, 112881, 112882 |
| Off position toggle key lock | KLK21 | 108852 |
| Front plate connection | JP21 | 108859, 108865 |
| Rear connection plate | RCP21 | 108871, 108875 |
| Mechanical interlock | MIT21 | 108855 |
| Mounting depth spacers | WG10, WG13 | 106131, 106132 |

Mounting screws, box 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 1P / 2P / 3P / 4P | 250 / 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 | 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

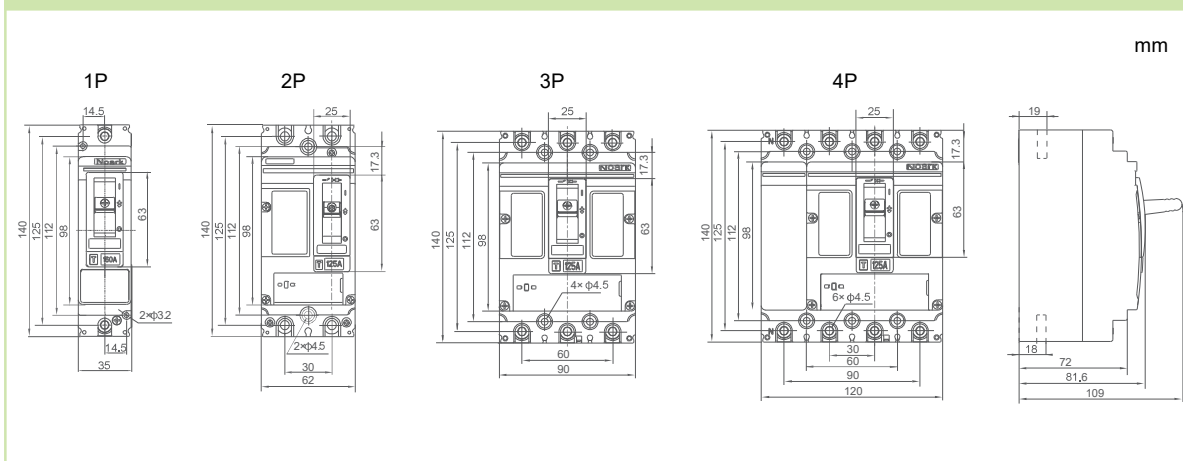
Mechanical parameters

| | |
|--------------------------------|--|
| Device width 1P / 2P / 3P / 4P | 35 mm / 62 mm / 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 ² |
| Fastening torque of terminals | 8 Nm |
| Ambient temperature | -40 — +70 °C |
| Relative humidity | ≤ 50 % at 40 °C, ≤ 90 % monthly average |
| Pollution degree | 3 |
| Weight 1P / 2P / 3P / 4P | 0.5 kg / 0.9 kg / 1.2 kg / 1.7 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

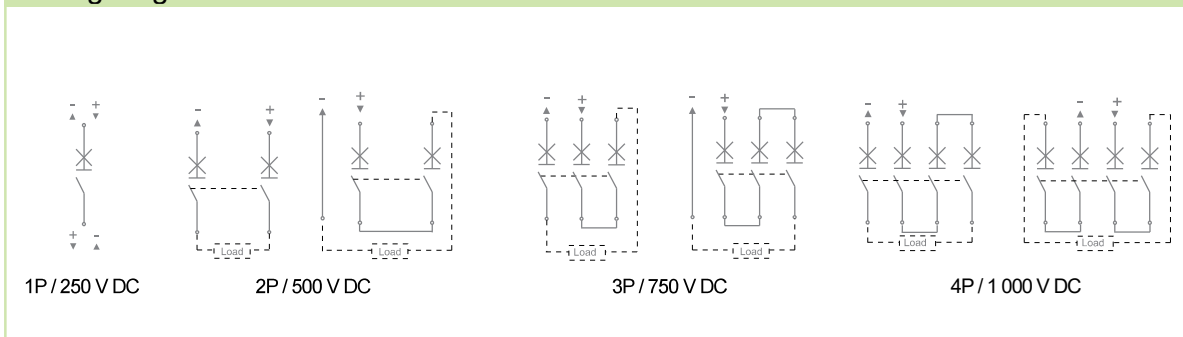
Derating coefficient of technical parameters based on altitude

| 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



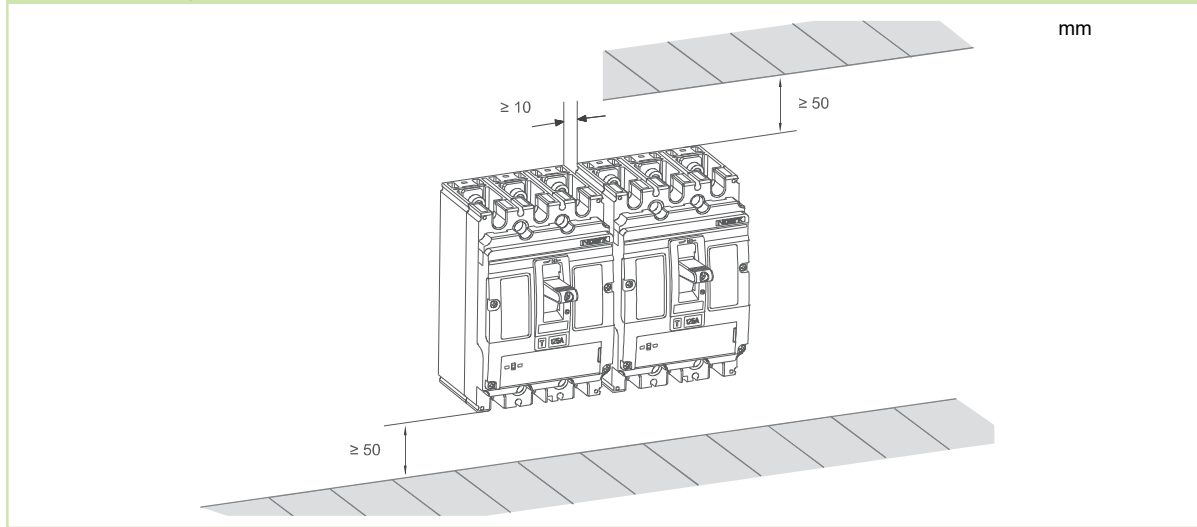
Wiring diagram



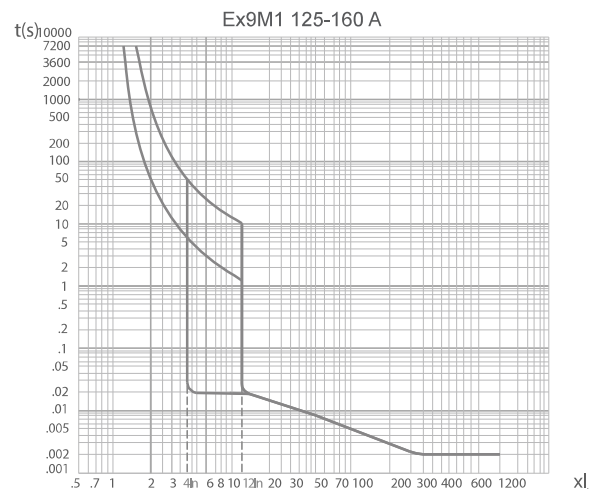
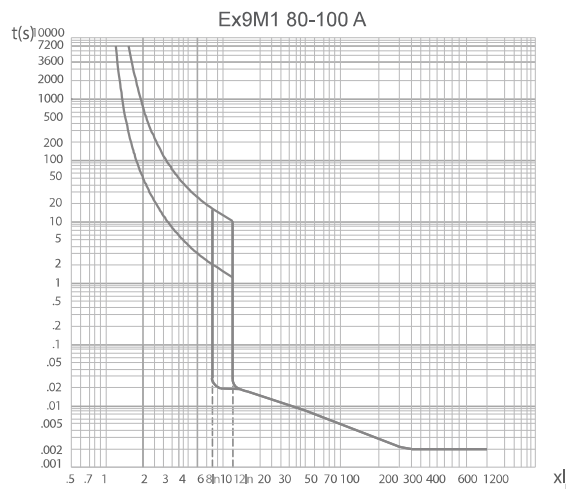
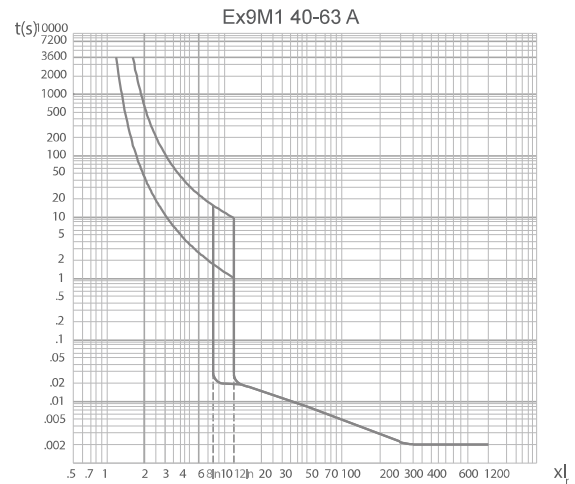
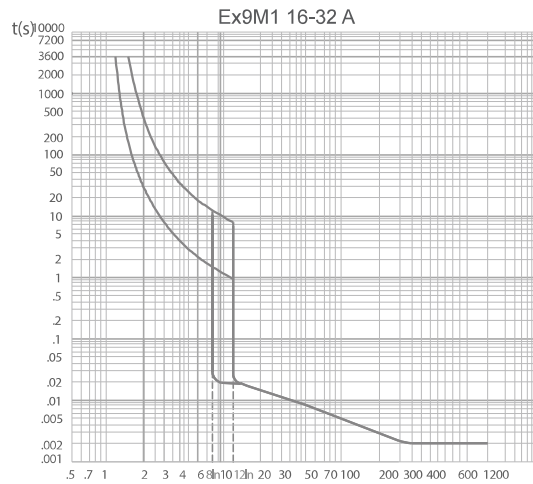
Technical Data Ex9M1 DC TM

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 (1.0) Not adjustable (1 Pole)

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

I_t (10) range not adjustable (1 Pole)

I_t 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

$I_{IN} = I_r$

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, 101431, 112080, 101443 |
| Terminal cover, short | TCV22 3P, 4P | 101442, 102374 |
| Terminal cover, long | TCE22 3P, 4P | 101443, 102375 |
| Phase barrier | PHS22 | 112111 |
| Box terminals | MC22 | 103709 |
| Screw Terminal | MCS22 | 107874 |
| Tunnel terminal | MC22 W | 103869, 103711, 103713 |
| DIN-rail adapter | DRA22 | 106320 |
| Plug-in base | PIA 22 | 112877, 112878, 112883, 112884 |
| Off position toggle key lock | KLK22 | 108853 |
| Front plate connection | JP22 | 108860, 108866 |
| Rear connection plate | RCP22 | 108872, 108876 |
| Mechanical interlock | MIT22 | 108856 |
| Mounting depth spacers | WG10, WG13 | 106131, 106132 |

Mounting screws, box 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 1P / 2P / 3P / 4P | 250 / 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 |

Technical Data Ex9M2 DC TM

DC TM Moulded Case Circuit Breakers up to 250 A

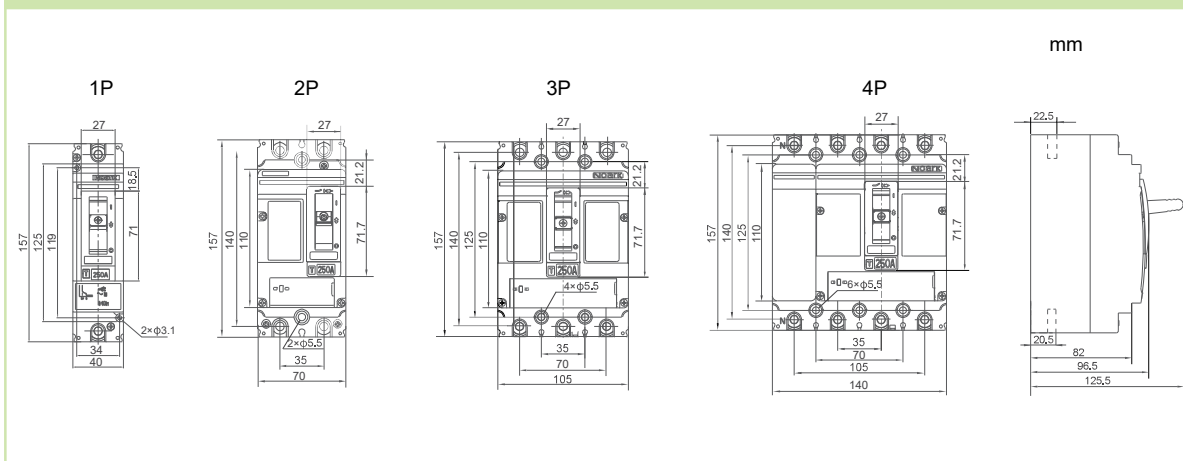
Mechanical parameters

| | |
|--------------------------------|--|
| Device width 1P / 2P / 3P / 4P | 40 mm / 70 mm / 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 1P / 2P / 3P / 4P | 0.75 kg / 1.3 kg / 1.85 kg / 2.5 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

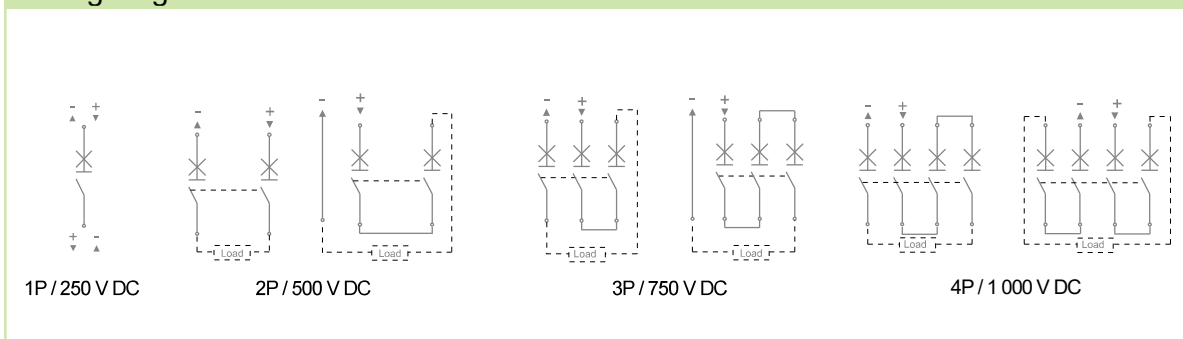
Derating coefficient of technical parameters based on altitude

| 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



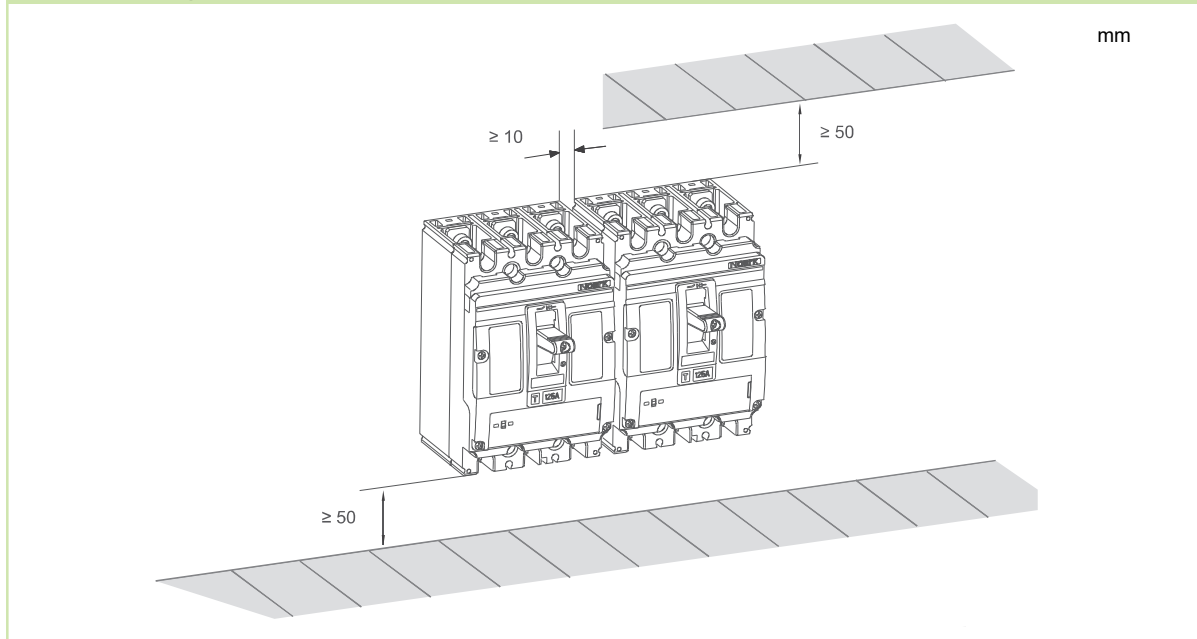
Wiring diagram



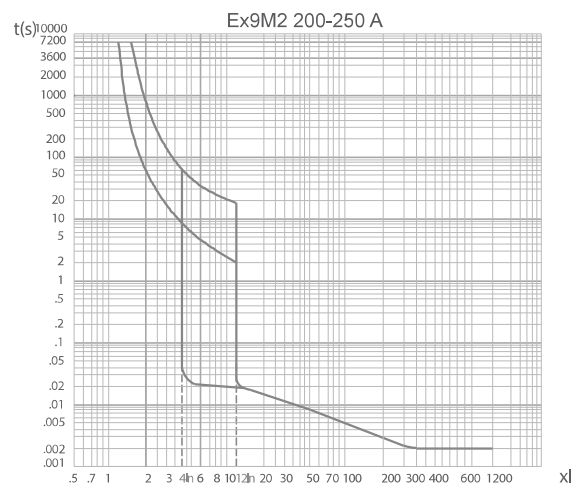
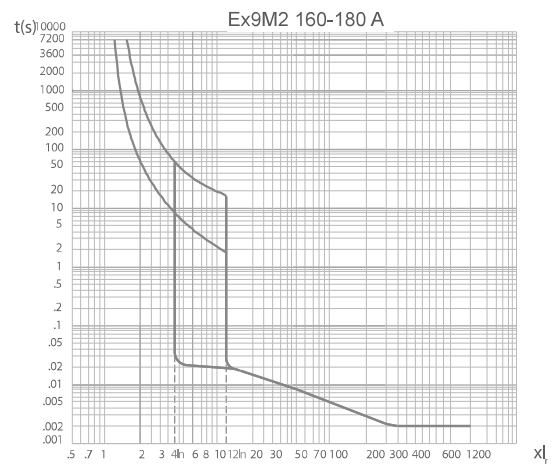
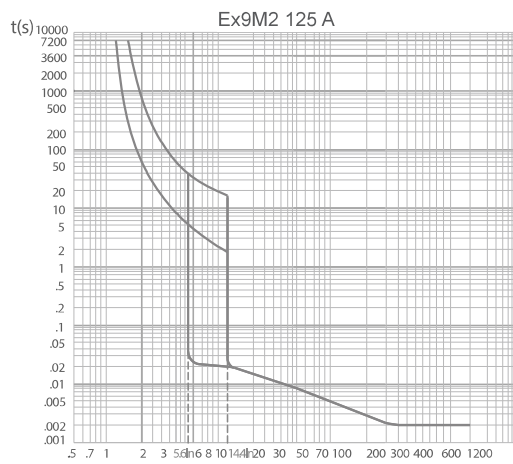
Technical Data Ex9M2 DC TM

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 400 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_f can be set in range $(5 — 10) \times I_n$

$I_{dN} = I_f$

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, 101485, 112081, 101488 |
| Terminal cover, short | TCV23 3P, 4P | 101489, 102376 |
| Terminal cover, long | TCE23 3P, 4P | 101490, 102377 |
| Phase barrier | PHS23 | 112112 |
| Box terminals | MC23 | 103715 |
| Tunnel terminal | MC23 W | 103719, 103721 |
| Plug-in base | PIA 23 | 112879, 112880, 112885, 112886 |
| Withdrawable base | DOB 23 | 108887, 108899, 108893, 108905, 108889, 108901, 108895, 108907 |
| Off position toggle key lock | KLK23 | 108854 |
| Front plate connection | JP23 | 108861, 108867 |
| Rear connection plate | RCP23 | 108873, 108877 |
| Mechanical interlock | MIT23 | 108857 |
| Draw-Out Base | DOB23 | 108877, 108899, 108893, 108905, 108889, 108901, 108895, 108907 |
| Mounting depth spacers | WG10, WG13 | 106131, 106132 |

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 400 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 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 |
| -40 | 350 | 441 | 490 | 560 |
| -35 | 343 | 433 | 481 | 550 |
| -25 | 332 | 418 | 465 | 530 |
| -15 | 319 | 402 | 447 | 510 |
| -5 | 306 | 386 | 429 | 490 |
| 0 | 300 | 378 | 420 | 480 |
| 10 | 287 | 362 | 402 | 460 |
| 20 | 275 | 346 | 385 | 440 |
| 30 | 262 | 331 | 367 | 420 |
| 40 | 250 | 315 | 350 | 400 |
| 50 | 237 | 300 | 332 | 380 |
| 60 | 225 | 286 | 295 | 360 |
| 70 | 212 | 271 | 276 | 320 |

Power dissipation characteristics

| I_n | 250 A | 315 A | 350 A | 400 A |
|----------------------------|-------|-------|-------|-------|
| Pole resistance (mΩ) | 0.35 | 0.25 | 0.25 | 0.15 |
| Pole power dissipation (W) | 21.9 | 24.8 | 30.6 | 24 |

Technical Data Ex9M3 DC TM

DC TM Moulded Case Circuit Breakers up to 400 A

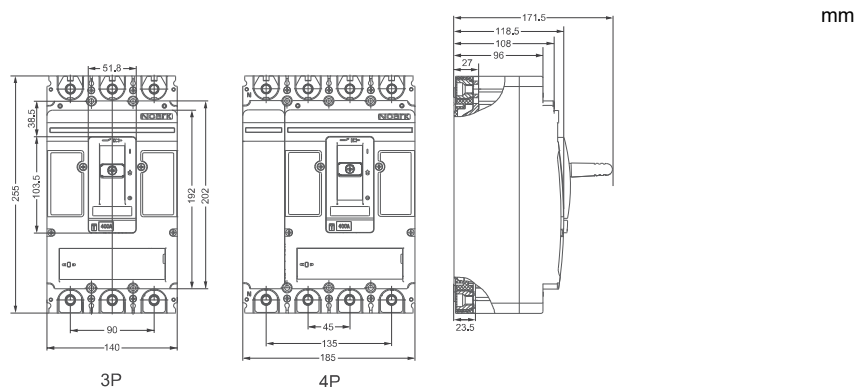
Mechanical parameters

| | |
|-------------------------------|--|
| 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 |

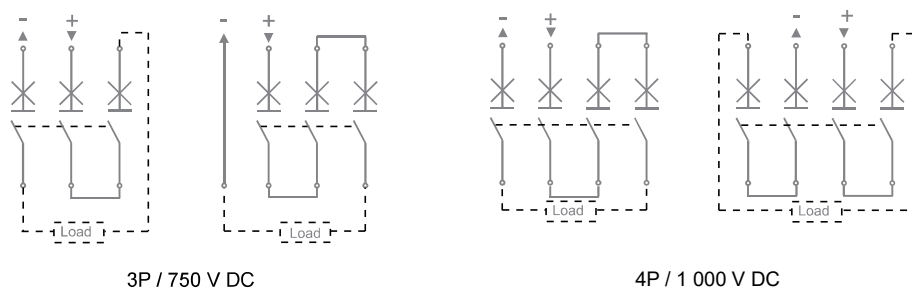
Derating coefficient of technical parameters based on altitude

| 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



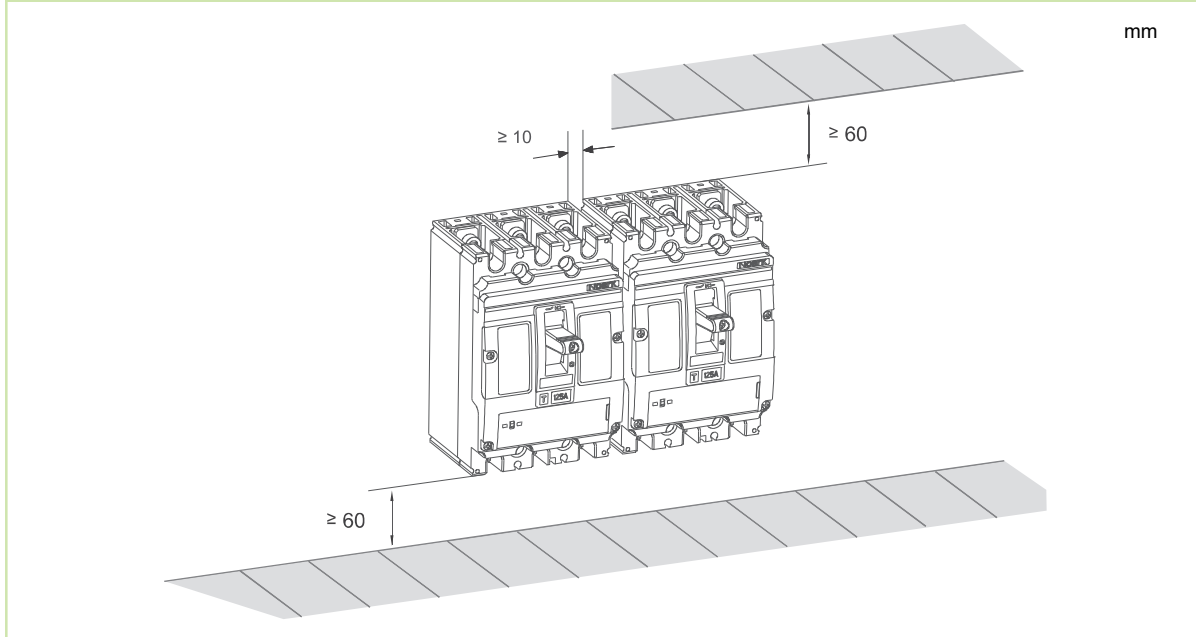
Wiring diagram



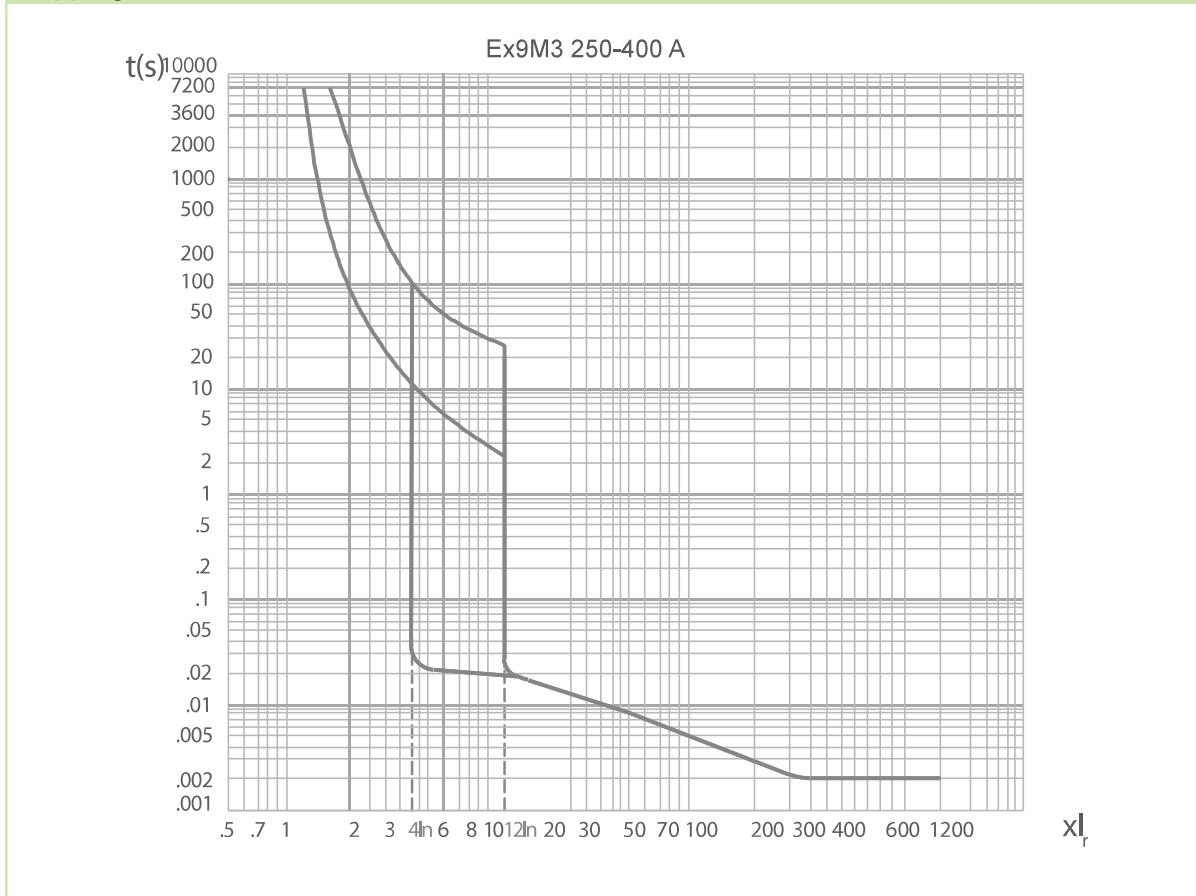
Technical Data Ex9M3 DC TM

DC TM Moulded Case Circuit Breakers up to 400 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_r can be set in range $(5 — 10) \times I_n$

$I_{dN} = I_r$

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 | 112873, 112874, 112082, 103747 |
| Terminal cover, short | TCV24 3P, 4P | 103748, 103750 |
| Terminal cover, long | TCE24 3P, 4P | 103749, 104855 |
| Phase barrier | PHS24 | 112113 |
| Tunnel terminals | MC24 W2 | 106314 |
| Rear connection plate | RCP24 | 108874, 108878 |
| Mechanical interlock | MIT24 | 108858 |
| Draw-Out Base | DOB24 | 118891, 118903, 118897, 118909 |
| Mounting depth spacers | WG10, WG13 | 106131, 106132 |

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

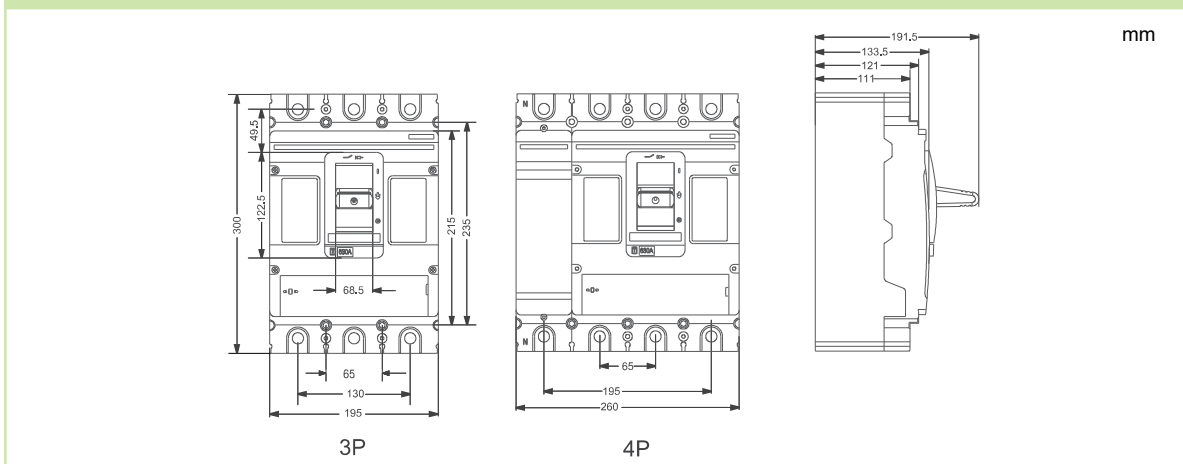
Mechanical parameters

| | |
|-------------------------------|--|
| 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 |

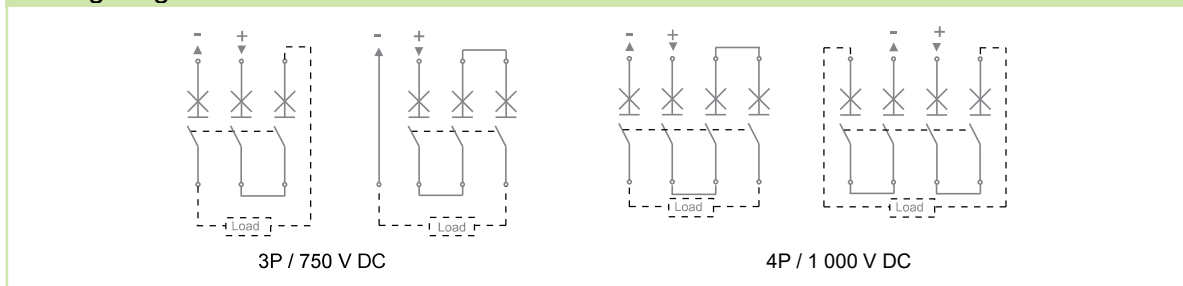
Derating coefficient of technical parameters based on altitude

| 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



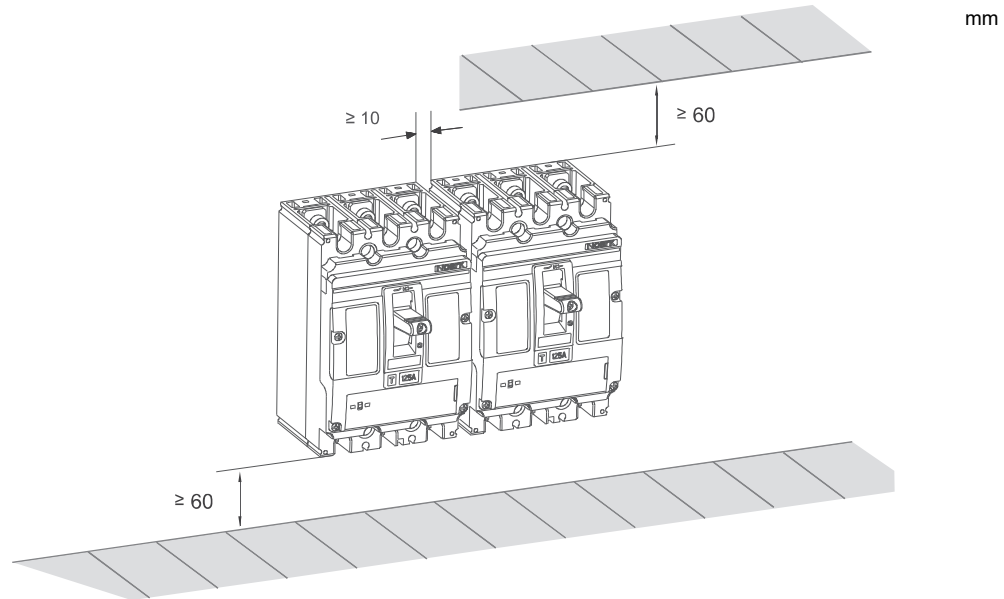
Wiring diagram



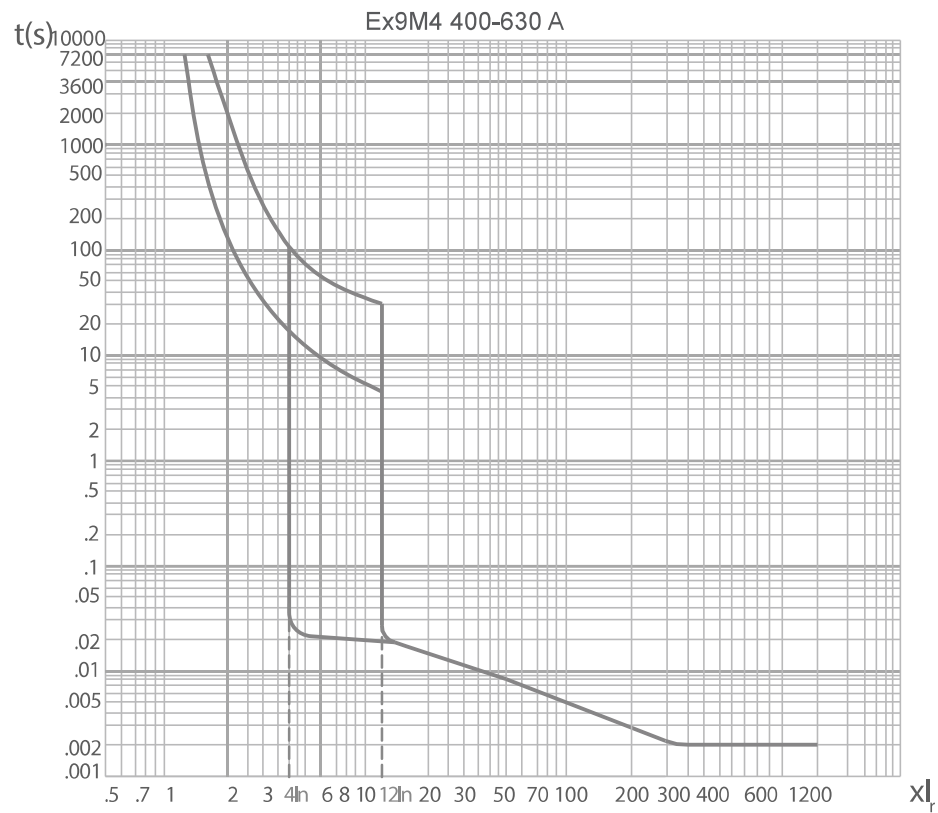
Technical Data Ex9M4 DC TM

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_r can be set in range $(5 — 10) \times I_n$

$I_{dN} = I_r$

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 | 112873, 112874, 112082, 103747 |
| Terminal cover, short | TCV24 3P, 4P | 103748, 103750 |
| Terminal cover, long | TCE24 3P, 4P | 103749, 104855 |
| Phase barrier | PB24 | 103751, 104856 |
| Tunnel terminals | MC24 W2 | 106314 |
| Rear connection plate | RCP24 | 108874, 108878 |
| Mechanical interlock | MIT24 | 108858 |
| Draw-Out Base | DOB24 | 118891, 118903, 118897, 118909 |
| Mounting depth spacers | WG10, WG13 | 106131, 106132 |

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

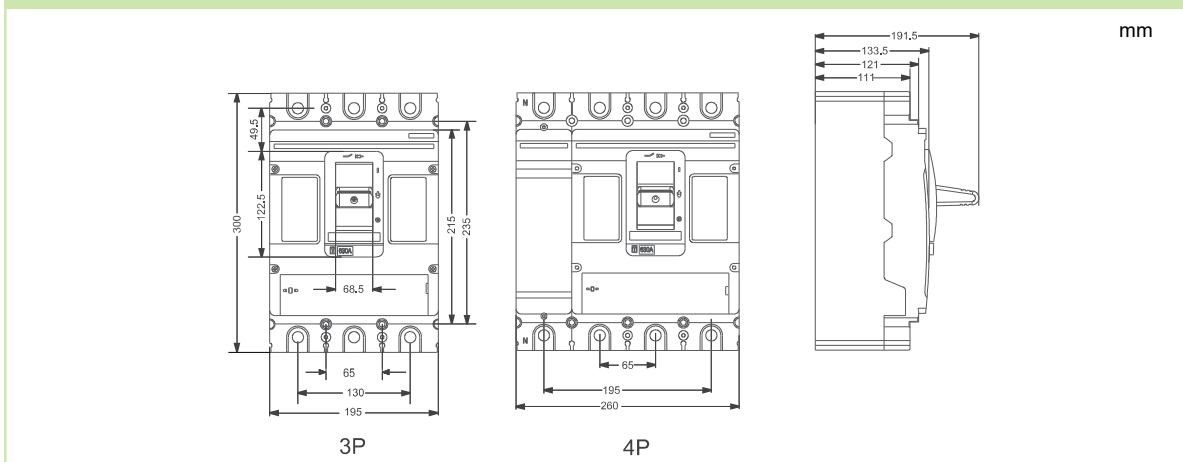
Mechanical parameters

| | |
|-------------------------------|--|
| 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 |

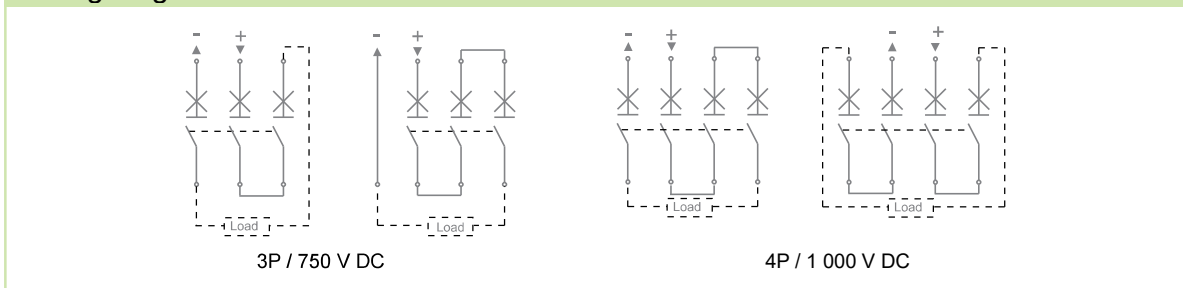
Derating coefficient of technical parameters based on altitude

| 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



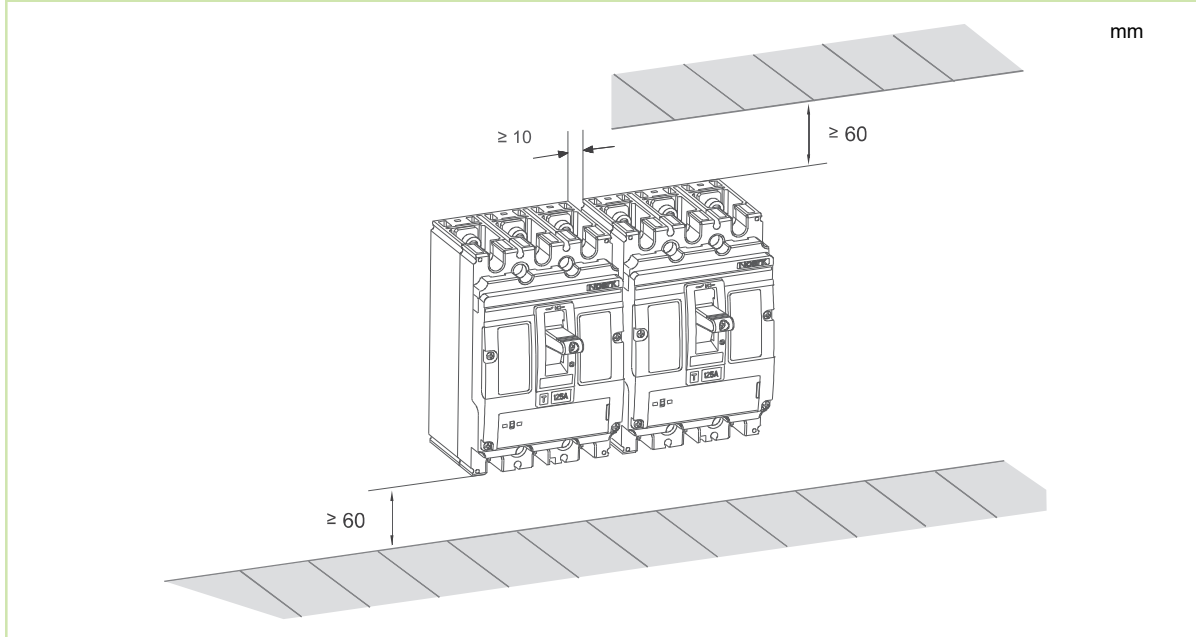
Wiring diagram



Technical Data Ex9M5 DC TM

DC TM Moulded Case Circuit Breakers up to 800 A

Installation space



Tripping characteristics

