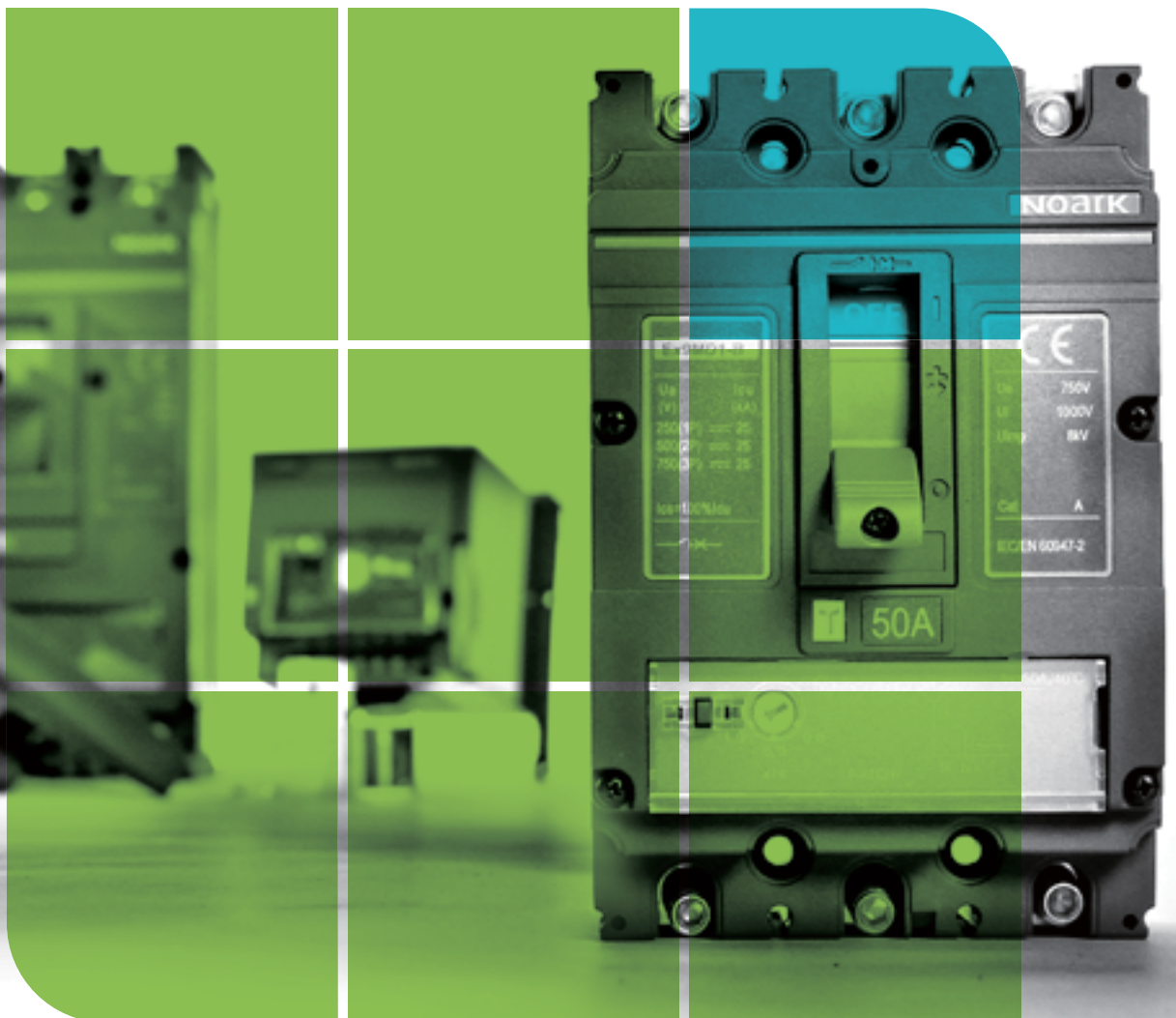


MOULDED CASE CIRCUIT BREAKERS

CATALOGUE
OF MOULDED CASE CIRCUIT
BREAKERS AND SWITCH DISCONNECTORS

VALID FROM 1ST JANUARY 2023



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Technical data

AC Thermomagnetic Moulded Case Circuit Breakers Ex9M

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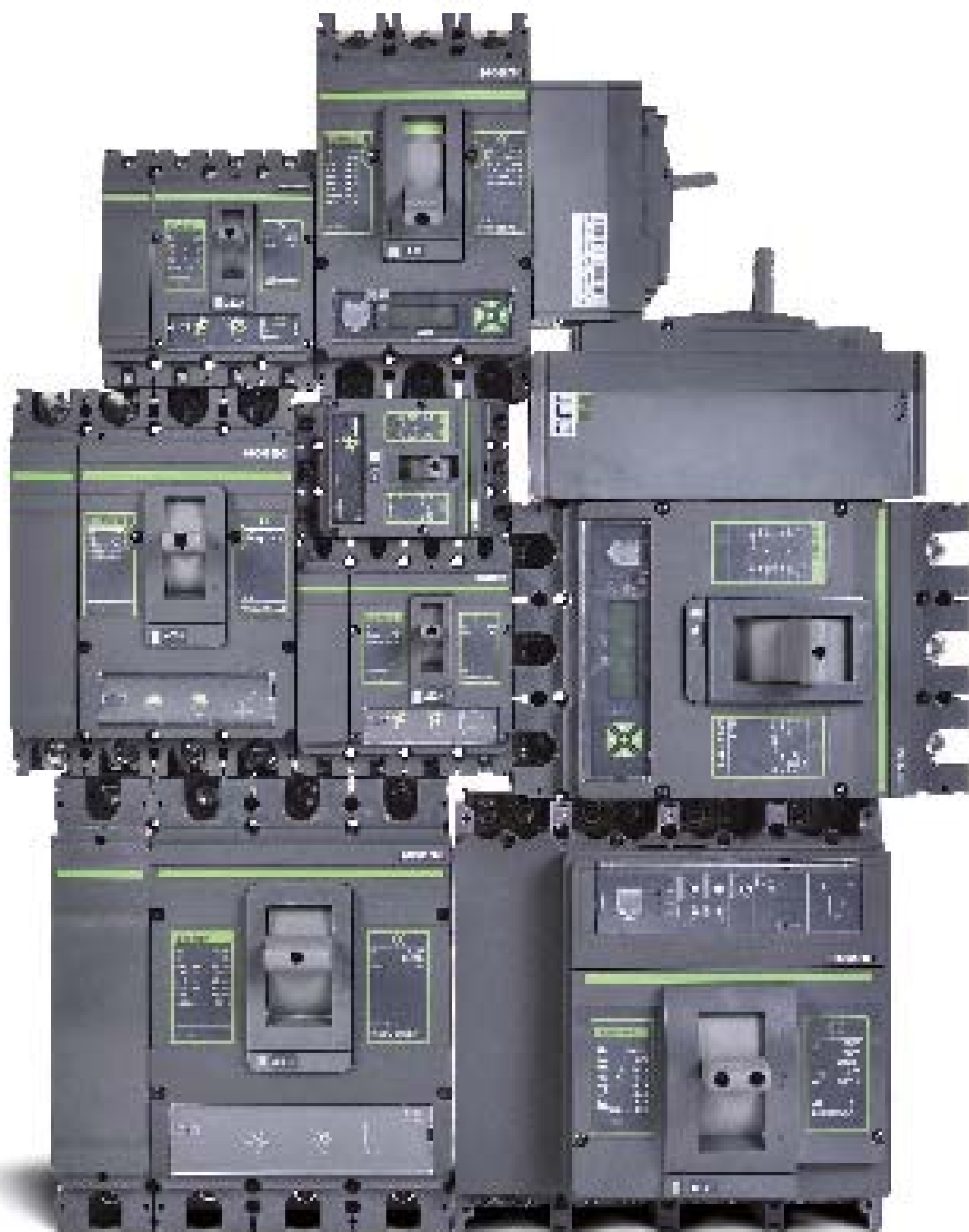
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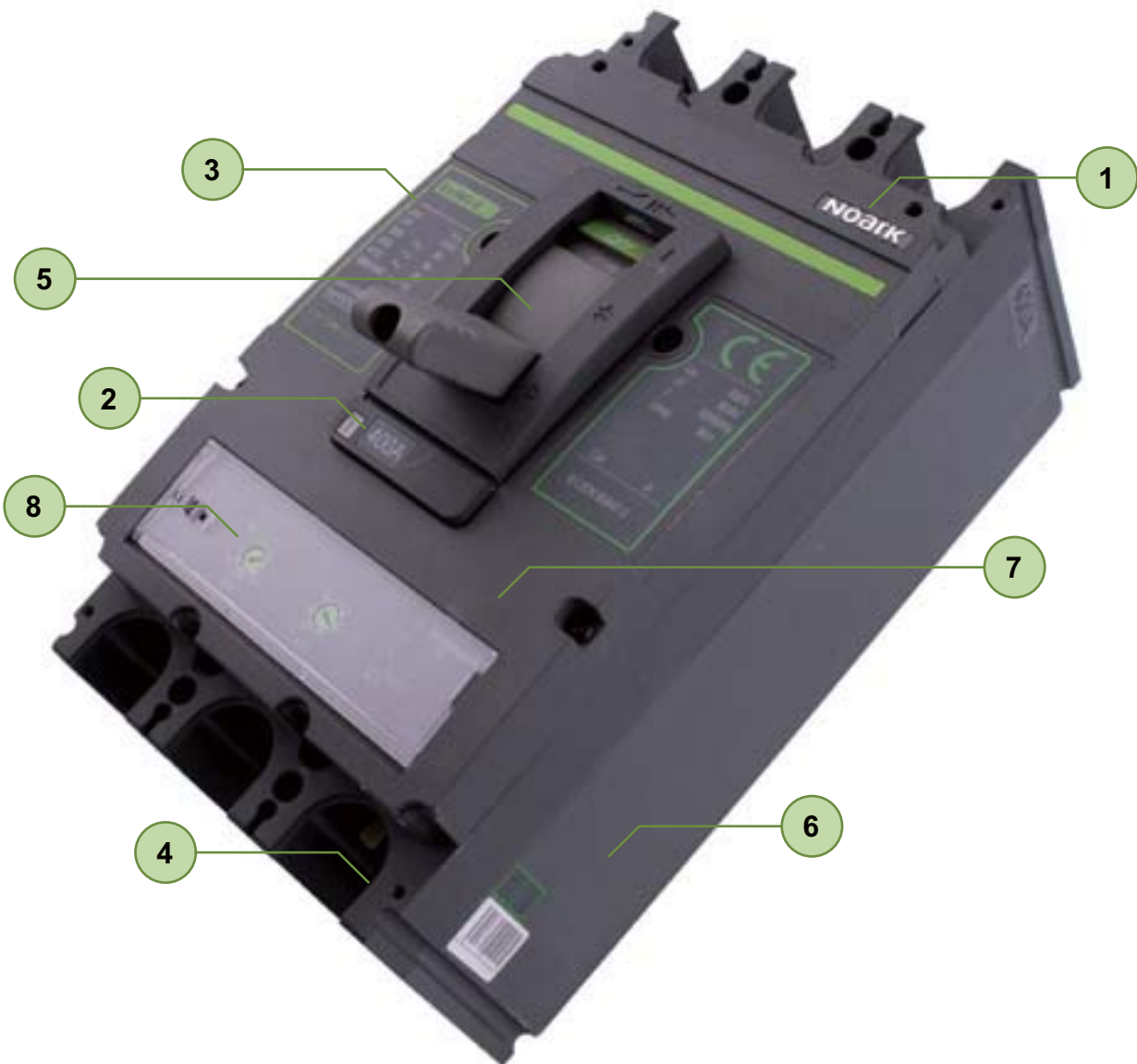
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Moulded Case Circuit Breakers



Moulded Case Circuit Breakers

Professional Tips



- 1 5 years warranty
- 2 Rated current from 16 A up to 800 A
- 3 Breaking capacity up 150 kA
- 4 3 and 4-pole versions available
- 5 Six frame sizes M1 - M5
- 6 AC MCCBs and Switch disconnectors
- 7 Wide range of accessories
- 8 Thermomagnetic release for sizes up to M1

Moulded Case Circuit Breakers Ex9M AC TM



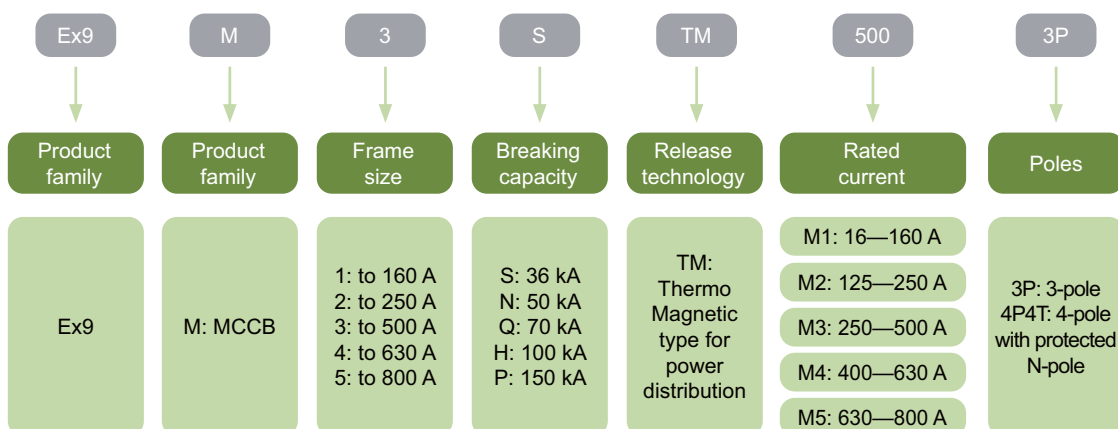
- Thermo-magnetic tripping unit for power distribution
- Frame sizes M1-M5
- Rated operating current up to 800 A
- 3 and 4-pole versions
- Rated ultimate short circuit breaking capacity $I_{cu} = I_{cs}$ up to 150 kA,
- Rated voltage 415 / 690 V AC

Moulded Case Circuit Breakers Ex9M Thermo-magnetic (TM) type are intended for applications in power distribution mainly. Testing according to IEC / EN 60947-2 standards ensures the functionality 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

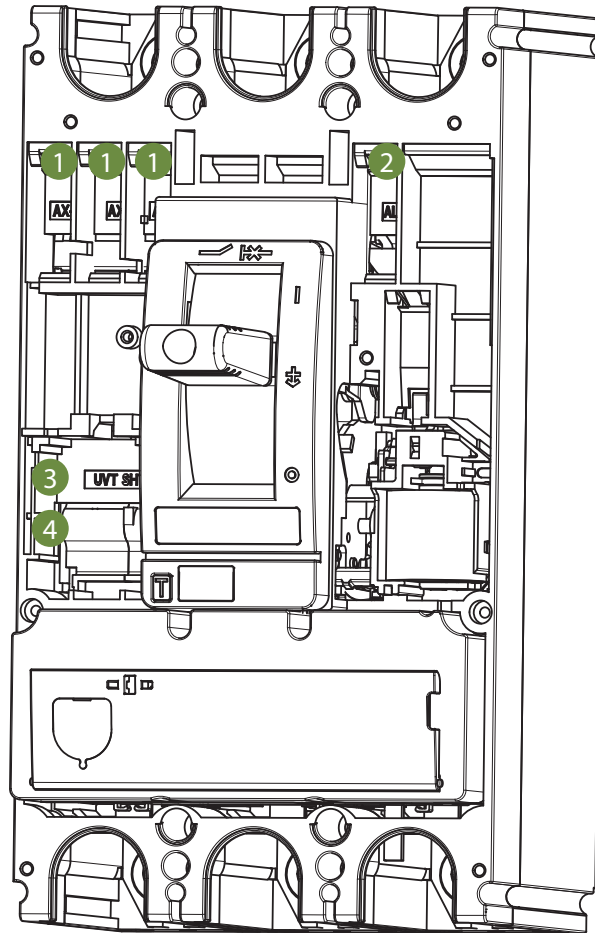


Certification marks



Moulded Case Circuit Breakers Ex9M AC 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

see page 92

Signal contact AL21M

see page 92

Shunt trip releases SHT2i

see page 92

Undervoltage releases UVT2i

see page 93

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

Moulded Case Circuit Breakers Ex9M AC TM

External accessories Ex9M1-M5 AC 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

see page 94

Terminal cover, short TCV2i

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Remote operators MOD2i

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Extended rotary handles ERH2i

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Terminal cover, long TCE2i

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Direct rotary handles RHD2i

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Moulded Case Circuit Breakers Ex9M AC TM

External accessories Ex9M1-M5 AC TM



Tunnel terminals
MC2i W



Mounting depth spacers
WG i



Box terminals
MC2i



Screw terminals
MCS2i



Din rail adapter
DRA2i

Tunnel terminals MC2i W

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Mounting depth spacers WG i

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Box terminals MC2i

see page 95

Screw terminals MCS2i

see page 95

Din rail DRA2i

see page 96

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M1S up to 160 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- 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_{th} fixed at $10 \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|------------------------|---------|
| 3 | 16A | 852228 | Ex9M1S TM 16 3P IEC | 1/12 |
| 3 | 20A | 852229 | Ex9M1S TM 20 3P IEC | 1/12 |
| 3 | 25A | 852230 | Ex9M1S TM 25 3P IEC | 1/12 |
| 3 | 32A | 852231 | Ex9M1S TM 32 3P IEC | 1/12 |
| 3 | 40A | 852232 | Ex9M1S TM 40 3P IEC | 1/12 |
| 3 | 50A | 852233 | Ex9M1S TM 50 3P IEC | 1/12 |
| 3 | 63A | 852234 | Ex9M1S TM 63 3P IEC | 1/12 |
| 3 | 80A | 852235 | Ex9M1S TM 80 3P IEC | 1/12 |
| 3 | 100A | 852236 | Ex9M1S TM 100 3P IEC | 1/12 |
| 3 | 125A | 852237 | Ex9M1S TM 125 3P IEC | 1/12 |
| 3 | 160A | 852238 | Ex9M1S TM 160 3P IEC | 1/12 |
| 4 | 16A | 852239 | Ex9M1S TM 16 4P4T IEC | 1/12 |
| 4 | 20A | 852240 | Ex9M1S TM 20 4P4T IEC | 1/12 |
| 4 | 25A | 852241 | Ex9M1S TM 25 4P4T IEC | 1/12 |
| 4 | 32A | 852242 | Ex9M1S TM 32 4P4T IEC | 1/12 |
| 4 | 40A | 852243 | Ex9M1S TM 40 4P4T IEC | 1/12 |
| 4 | 50A | 852244 | Ex9M1S TM 50 4P4T IEC | 1/12 |
| 4 | 63A | 852245 | Ex9M1S TM 63 4P4T IEC | 1/12 |
| 4 | 80A | 852246 | Ex9M1S TM 80 4P4T IEC | 1/12 |
| 4 | 100A | 852247 | Ex9M1S TM 100 4P4T IEC | 1/12 |
| 4 | 125A | 852248 | Ex9M1S TM 125 4P4T IEC | 1/12 |
| 4 | 160A | 852249 | Ex9M1S TM 160 4P4T IEC | 1/12 |

Version Ex9M1N up to 160 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- 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_{th} fixed at $10 \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|------------------------|---------|
| 3 | 16A | 852250 | Ex9M1N TM 16 3P IEC | 1/12 |
| 3 | 20A | 852251 | Ex9M1N TM 20 3P IEC | 1/12 |
| 3 | 25A | 852252 | Ex9M1N TM 25 3P IEC | 1/12 |
| 3 | 32A | 852253 | Ex9M1N TM 32 3P IEC | 1/12 |
| 3 | 40A | 852254 | Ex9M1N TM 40 3P IEC | 1/12 |
| 3 | 50A | 852255 | Ex9M1N TM 50 3P IEC | 1/12 |
| 3 | 63A | 852256 | Ex9M1N TM 63 3P IEC | 1/12 |
| 3 | 80A | 852257 | Ex9M1N TM 80 3P IEC | 1/12 |
| 3 | 100A | 852258 | Ex9M1N TM 100 3P IEC | 1/12 |
| 3 | 125A | 852259 | Ex9M1N TM 125 3P IEC | 1/12 |
| 3 | 160A | 852260 | Ex9M1N TM 160 3P IEC | 1/12 |
| 4 | 16A | 852261 | Ex9M1N TM 16 4P4T IEC | 1/12 |
| 4 | 20A | 852262 | Ex9M1N TM 20 4P4T IEC | 1/12 |
| 4 | 25A | 852263 | Ex9M1N TM 25 4P4T IEC | 1/12 |
| 4 | 32A | 852264 | Ex9M1N TM 32 4P4T IEC | 1/12 |
| 4 | 40A | 852265 | Ex9M1N TM 40 4P4T IEC | 1/12 |
| 4 | 50A | 852266 | Ex9M1N TM 50 4P4T IEC | 1/12 |
| 4 | 63A | 852267 | Ex9M1N TM 63 4P4T IEC | 1/12 |
| 4 | 80A | 852268 | Ex9M1N TM 80 4P4T IEC | 1/12 |
| 4 | 100A | 852269 | Ex9M1N TM 100 4P4T IEC | 1/12 |
| 4 | 125A | 852270 | Ex9M1N TM 125 4P4T IEC | 1/12 |
| 4 | 160A | 852271 | Ex9M1N TM 160 4P4T IEC | 1/12 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M1Q up to 160 A, $I_{cu} = 70$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 70$ kA at 415 V AC
- 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_{th} fixed at $10 \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|------------------------|---------|
| 3 | 16A | 852272 | Ex9M1Q TM 16 3P IEC | 1/12 |
| 3 | 20A | 852273 | Ex9M1Q TM 20 3P IEC | 1/12 |
| 3 | 25A | 852274 | Ex9M1Q TM 25 3P IEC | 1/12 |
| 3 | 32A | 852275 | Ex9M1Q TM 32 3P IEC | 1/12 |
| 3 | 40A | 852276 | Ex9M1Q TM 40 3P IEC | 1/12 |
| 3 | 50A | 852277 | Ex9M1Q TM 50 3P IEC | 1/12 |
| 3 | 63A | 852278 | Ex9M1Q TM 63 3P IEC | 1/12 |
| 3 | 80A | 852279 | Ex9M1Q TM 80 3P IEC | 1/12 |
| 3 | 100A | 852280 | Ex9M1Q TM 100 3P IEC | 1/12 |
| 3 | 125A | 852281 | Ex9M1Q TM 125 3P IEC | 1/12 |
| 3 | 160A | 852282 | Ex9M1Q TM 160 3P IEC | 1/12 |
| 4 | 16A | 852283 | Ex9M1Q TM 16 4P4T IEC | 1/12 |
| 4 | 20A | 852284 | Ex9M1Q TM 20 4P4T IEC | 1/12 |
| 4 | 25A | 852285 | Ex9M1Q TM 25 4P4T IEC | 1/12 |
| 4 | 32A | 852286 | Ex9M1Q TM 32 4P4T IEC | 1/12 |
| 4 | 40A | 852287 | Ex9M1Q TM 40 4P4T IEC | 1/12 |
| 4 | 50A | 852288 | Ex9M1Q TM 50 4P4T IEC | 1/12 |
| 4 | 63A | 852289 | Ex9M1Q TM 63 4P4T IEC | 1/12 |
| 4 | 80A | 852290 | Ex9M1Q TM 80 4P4T IEC | 1/12 |
| 4 | 100A | 852291 | Ex9M1Q TM 100 4P4T IEC | 1/12 |
| 4 | 125A | 852292 | Ex9M1Q TM 125 4P4T IEC | 1/12 |
| 4 | 160A | 852293 | Ex9M1Q TM 160 4P4T IEC | 1/12 |

Version Ex9M1H up to 160 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- 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_{th} fixed at $10 \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|------------------------|---------|
| 3 | 16A | 852294 | Ex9M1H TM 16 3P IEC | 1/12 |
| 3 | 20A | 852295 | Ex9M1H TM 20 3P IEC | 1/12 |
| 3 | 25A | 852296 | Ex9M1H TM 25 3P IEC | 1/12 |
| 3 | 32A | 852297 | Ex9M1H TM 32 3P IEC | 1/12 |
| 3 | 40A | 852298 | Ex9M1H TM 40 3P IEC | 1/12 |
| 3 | 50A | 852299 | Ex9M1H TM 50 3P IEC | 1/12 |
| 3 | 63A | 852300 | Ex9M1H TM 63 3P IEC | 1/12 |
| 3 | 80A | 852301 | Ex9M1H TM 80 3P IEC | 1/12 |
| 3 | 100A | 852302 | Ex9M1H TM 100 3P IEC | 1/12 |
| 3 | 125A | 852303 | Ex9M1H TM 125 3P IEC | 1/12 |
| 3 | 160A | 852304 | Ex9M1H TM 160 3P IEC | 1/12 |
| 4 | 16A | 852305 | Ex9M1H TM 16 4P4T IEC | 1/12 |
| 4 | 20A | 852306 | Ex9M1H TM 20 4P4T IEC | 1/12 |
| 4 | 25A | 852307 | Ex9M1H TM 25 4P4T IEC | 1/12 |
| 4 | 32A | 852308 | Ex9M1H TM 32 4P4T IEC | 1/12 |
| 4 | 40A | 852309 | Ex9M1H TM 40 4P4T IEC | 1/12 |
| 4 | 50A | 852310 | Ex9M1H TM 50 4P4T IEC | 1/12 |
| 4 | 63A | 852311 | Ex9M1H TM 63 4P4T IEC | 1/12 |
| 4 | 80A | 852312 | Ex9M1H TM 80 4P4T IEC | 1/12 |
| 4 | 100A | 852313 | Ex9M1H TM 100 4P4T IEC | 1/12 |
| 4 | 125A | 852314 | Ex9M1H TM 125 4P4T IEC | 1/12 |
| 4 | 160A | 852315 | Ex9M1H TM 160 4P4T IEC | 1/12 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M1P up to 160 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- 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_{th} fixed at $10 \times I_n$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|------------------------|---------|
| 3 | 16A | 852316 | Ex9M1P TM 16 3P IEC | 1/12 |
| 3 | 20A | 852317 | Ex9M1P TM 20 3P IEC | 1/12 |
| 3 | 25A | 852318 | Ex9M1P TM 25 3P IEC | 1/12 |
| 3 | 32A | 852319 | Ex9M1P TM 32 3P IEC | 1/12 |
| 3 | 40A | 852320 | Ex9M1P TM 40 3P IEC | 1/12 |
| 3 | 50A | 852321 | Ex9M1P TM 50 3P IEC | 1/12 |
| 3 | 63A | 852322 | Ex9M1P TM 63 3P IEC | 1/12 |
| 3 | 80A | 852323 | Ex9M1P TM 80 3P IEC | 1/12 |
| 3 | 100A | 852324 | Ex9M1P TM 100 3P IEC | 1/12 |
| 3 | 125A | 852325 | Ex9M1P TM 125 3P IEC | 1/12 |
| 3 | 160A | 852326 | Ex9M1P TM 160 3P IEC | 1/12 |
| 4 | 16A | 852327 | Ex9M1P TM 16 4P4T IEC | 1/12 |
| 4 | 20A | 852328 | Ex9M1P TM 20 4P4T IEC | 1/12 |
| 4 | 25A | 852329 | Ex9M1P TM 25 4P4T IEC | 1/12 |
| 4 | 32A | 852330 | Ex9M1P TM 32 4P4T IEC | 1/12 |
| 4 | 40A | 852331 | Ex9M1P TM 40 4P4T IEC | 1/12 |
| 4 | 50A | 852332 | Ex9M1P TM 50 4P4T IEC | 1/12 |
| 4 | 63A | 852333 | Ex9M1P TM 63 4P4T IEC | 1/12 |
| 4 | 80A | 852334 | Ex9M1P TM 80 4P4T IEC | 1/12 |
| 4 | 100A | 852335 | Ex9M1P TM 100 4P4T IEC | 1/12 |
| 4 | 125A | 852336 | Ex9M1P TM 125 4P4T IEC | 1/12 |
| 4 | 160A | 852337 | Ex9M1P TM 160 4P4T IEC | 1/12 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M2S up to 250 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- 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
- $I_{IN} = I_i$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 125A | 852338 | Ex9M2S TM AC125 3P IEC | 1/8 |
| 3 | 160A | 852339 | Ex9M2S TM AC160 3P IEC | 1/8 |
| 3 | 180A | 852340 | Ex9M2S TM AC180 3P IEC | 1/8 |
| 3 | 200A | 852341 | Ex9M2S TM AC200 3P IEC | 1/8 |
| 3 | 225A | 852342 | Ex9M2S TM AC225 3P IEC | 1/8 |
| 3 | 250A | 852343 | Ex9M2S TM AC250 3P IEC | 1/8 |
| 4 | 125A | 852344 | Ex9M2S TM AC125 4P4T IEC | 1/8 |
| 4 | 160A | 852345 | Ex9M2S TM AC160 4P4T IEC | 1/8 |
| 4 | 180A | 852346 | Ex9M2S TM AC180 4P4T IEC | 1/8 |
| 4 | 200A | 852347 | Ex9M2S TM AC200 4P4T IEC | 1/8 |
| 4 | 225A | 852348 | Ex9M2S TM AC225 4P4T IEC | 1/8 |
| 4 | 250A | 852349 | Ex9M2S TM AC250 4P4T IEC | 1/8 |

Version Ex9M2N up to 250 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- 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
- $I_{IN} = I_i$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 125A | 852350 | Ex9M2N TM AC125 3P IEC | 1/8 |
| 3 | 160A | 852351 | Ex9M2N TM AC160 3P IEC | 1/8 |
| 3 | 180A | 852352 | Ex9M2N TM AC180 3P IEC | 1/8 |
| 3 | 200A | 852353 | Ex9M2N TM AC200 3P IEC | 1/8 |
| 3 | 225A | 852354 | Ex9M2N TM AC225 3P IEC | 1/8 |
| 3 | 250A | 852355 | Ex9M2N TM AC250 3P IEC | 1/8 |
| 4 | 125A | 852356 | Ex9M2N TM AC125 4P4T IEC | 1/8 |
| 4 | 160A | 852357 | Ex9M2N TM AC160 4P4T IEC | 1/8 |
| 4 | 180A | 852358 | Ex9M2N TM AC180 4P4T IEC | 1/8 |
| 4 | 200A | 852359 | Ex9M2N TM AC200 4P4T IEC | 1/8 |
| 4 | 225A | 852360 | Ex9M2N TM AC225 4P4T IEC | 1/8 |
| 4 | 250A | 852361 | Ex9M2N TM AC250 4P4T IEC | 1/8 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M2Q up to 250 A, $I_{cu} = 75 \text{ kA}$

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 75 \text{ kA}$ at 415 V AC
- 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
- $I_{th} = I_i$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 125A | 852362 | Ex9M2Q TM AC125 3P IEC | 1/8 |
| 3 | 160A | 852363 | Ex9M2Q TM AC125 3P IEC | 1/8 |
| 3 | 180A | 852364 | Ex9M2Q TM AC180 3P IEC | 1/8 |
| 3 | 200A | 852365 | Ex9M2Q TM AC200 3P IEC | 1/8 |
| 3 | 225A | 852366 | Ex9M2Q TM AC225 3P IEC | 1/8 |
| 3 | 250A | 852367 | Ex9M2Q TM AC250 3P IEC | 1/8 |
| 4 | 125A | 852368 | Ex9M2Q TM AC125 4P4T IEC | 1/8 |
| 4 | 160A | 852369 | Ex9M2Q TM AC160 4P4T IEC | 1/8 |
| 4 | 180A | 852370 | Ex9M2Q TM AC180 4P4T IEC | 1/8 |
| 4 | 200A | 852371 | Ex9M2Q TM AC200 4P4T IEC | 1/8 |
| 4 | 225A | 852372 | Ex9M2Q TM AC225 4P4T IEC | 1/8 |
| 4 | 250A | 852373 | Ex9M2Q TM AC250 4P4T IEC | 1/8 |

Version Ex9M2H up to 250 A, $I_{cu} = 100 \text{ kA}$

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100 \text{ kA}$ at 415 V AC
- 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
- $I_{th} = I_i$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 125A | 852374 | Ex9M2H TM AC125 3P IEC | 1/8 |
| 3 | 160A | 852375 | Ex9M2H TM AC160 3P IEC | 1/8 |
| 3 | 180A | 852376 | Ex9M2H TM AC180 3P IEC | 1/8 |
| 3 | 200A | 852377 | Ex9M2H TM AC200 3P IEC | 1/8 |
| 3 | 225A | 852378 | Ex9M2H TM AC225 3P IEC | 1/8 |
| 3 | 250A | 852379 | Ex9M2H TM AC250 3P IEC | 1/8 |
| 4 | 125A | 852380 | Ex9M2H TM AC125 4P4T IEC | 1/8 |
| 4 | 160A | 852381 | Ex9M2H TM AC160 4P4T IEC | 1/8 |
| 4 | 180A | 852382 | Ex9M2H TM AC180 4P4T IEC | 1/8 |
| 4 | 200A | 852383 | Ex9M2H TM AC200 4P4T IEC | 1/8 |
| 4 | 225A | 852384 | Ex9M2H TM AC225 4P4T IEC | 1/8 |
| 4 | 250A | 852385 | Ex9M2H TM AC250 4P4T IEC | 1/8 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M2P up to 250 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- 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
- $I_{th} = I_i$
- Mounting screws, box terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 125A | 852386 | Ex9M2P TM AC125 3P IEC | 1/8 |
| 3 | 160A | 852387 | Ex9M2P TM AC125 3P IEC | 1/8 |
| 3 | 180A | 852388 | Ex9M2P TM AC180 3P IEC | 1/8 |
| 3 | 200A | 852389 | Ex9M2P TM AC200 3P IEC | 1/8 |
| 3 | 225A | 852390 | Ex9M2P TM AC225 3P IEC | 1/8 |
| 3 | 250A | 852391 | Ex9M2P TM AC250 3P IEC | 1/8 |
| 4 | 125A | 852392 | Ex9M2P TM AC125 4P4T IEC | 1/8 |
| 4 | 160A | 852393 | Ex9M2P TM AC160 4P4T IEC | 1/8 |
| 4 | 180A | 852394 | Ex9M2P TM AC180 4P4T IEC | 1/8 |
| 4 | 200A | 852395 | Ex9M2P TM AC200 4P4T IEC | 1/8 |
| 4 | 225A | 852396 | Ex9M2P TM AC225 4P4T IEC | 1/8 |
| 4 | 250A | 852397 | Ex9M2P TM AC250 4P4T IEC | 1/8 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M3S up to 500 A, $I_{cu} = 36 \text{ kA}$

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36 \text{ kA}$ at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 250A | 852398 | Ex9M3S TM AC250 3P IEC | 1/2 |
| 3 | 315A | 852399 | Ex9M3S TM AC315 3P IEC | 1/2 |
| 3 | 350A | 852400 | Ex9M3S TM AC350 3P IEC | 1/2 |
| 3 | 400A | 852401 | Ex9M3S TM AC400 3P IEC | 1/2 |
| 3 | 500A | 852402 | Ex9M3S TM AC500 3P IEC | 1/2 |
| 4 | 250A | 852403 | Ex9M3S TM AC250 4P4T IEC | 1/2 |
| 4 | 315A | 852404 | Ex9M3S TM AC315 4P4T IEC | 1/2 |
| 4 | 350A | 852405 | Ex9M3S TM AC350 4P4T IEC | 1/2 |
| 4 | 400A | 852406 | Ex9M3S TM AC400 4P4T IEC | 1/2 |
| 4 | 500A | 852407 | Ex9M3S TM AC500 4P4T IEC | 1/2 |

Version Ex9M3N up to 500 A, $I_{cu} = 50 \text{ kA}$

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50 \text{ kA}$ at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 250A | 852408 | Ex9M3N TM AC250 3P IEC | 1/2 |
| 3 | 315A | 852409 | Ex9M3N TM AC315 3P IEC | 1/2 |
| 3 | 350A | 852410 | Ex9M3N TM AC350 3P IEC | 1/2 |
| 3 | 400A | 852411 | Ex9M3N TM AC400 3P IEC | 1/2 |
| 3 | 500A | 852412 | Ex9M3N TM AC500 3P IEC | 1/2 |
| 4 | 250A | 852413 | Ex9M3N TM AC250 4P4T IEC | 1/2 |
| 4 | 315A | 852414 | Ex9M3N TM AC315 4P4T IEC | 1/2 |
| 4 | 350A | 852415 | Ex9M3N TM AC350 4P4T IEC | 1/2 |
| 4 | 400A | 852416 | Ex9M3N TM AC400 4P4T IEC | 1/2 |
| 4 | 500A | 852417 | Ex9M3N TM AC500 4P4T IEC | 1/2 |

Version Ex9M3Q up to 500 A, $I_{cu} = 75 \text{ kA}$

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 75 \text{ kA}$ at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 250A | 852418 | Ex9M3Q TM AC250 3P IEC | 1/2 |
| 3 | 315A | 852419 | Ex9M3Q TM AC315 3P IEC | 1/2 |
| 3 | 350A | 852420 | Ex9M3Q TM AC350 3P IEC | 1/2 |
| 3 | 400A | 852421 | Ex9M3Q TM AC400 3P IEC | 1/2 |
| 3 | 500A | 852422 | Ex9M3Q TM AC500 3P IEC | 1/2 |
| 4 | 250A | 852423 | Ex9M3Q TM AC250 4P4T IEC | 1/2 |
| 4 | 315A | 852424 | Ex9M3Q TM AC315 4P4T IEC | 1/2 |
| 4 | 350A | 852425 | Ex9M3Q TM AC350 4P4T IEC | 1/2 |
| 4 | 400A | 852426 | Ex9M3Q TM AC400 4P4T IEC | 1/2 |
| 4 | 500A | 852427 | Ex9M3Q TM AC500 4P4T IEC | 1/2 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M3H up to 500 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_f can be set in range $(0.7 - 1.0) \times I_n$
- I_t can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_f$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 250A | 852428 | Ex9M3H TM AC250 3P IEC | 1/2 |
| 3 | 315A | 852429 | Ex9M3H TM AC315 3P IEC | 1/2 |
| 3 | 350A | 852430 | Ex9M3H TM AC350 3P IEC | 1/2 |
| 3 | 400A | 852431 | Ex9M3H TM AC400 3P IEC | 1/2 |
| 3 | 500A | 852432 | Ex9M3H TM AC500 3P IEC | 1/2 |
| 4 | 250A | 852433 | Ex9M3H TM AC250 4P4T IEC | 1/2 |
| 4 | 315A | 852434 | Ex9M3H TM AC315 4P4T IEC | 1/2 |
| 4 | 350A | 852435 | Ex9M3H TM AC350 4P4T IEC | 1/2 |
| 4 | 400A | 852436 | Ex9M3H TM AC400 4P4T IEC | 1/2 |
| 4 | 500A | 852437 | Ex9M3H TM AC500 4P4T IEC | 1/2 |

Version Ex9M3P up to 500 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_f can be set in range $(0.7 - 1.0) \times I_n$
- I_t can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_f$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 250A | 852438 | Ex9M3P TM AC250 3P IEC | 1/2 |
| 3 | 315A | 852439 | Ex9M3P TM AC315 3P IEC | 1/2 |
| 3 | 350A | 852440 | Ex9M3P TM AC350 3P IEC | 1/2 |
| 3 | 400A | 852441 | Ex9M3P TM AC400 3P IEC | 1/2 |
| 3 | 500A | 852442 | Ex9M3P TM AC500 3P IEC | 1/2 |
| 4 | 250A | 852443 | Ex9M3P TM AC250 4P4T IEC | 1/2 |
| 4 | 315A | 852444 | Ex9M3P TM AC315 4P4T IEC | 1/2 |
| 4 | 350A | 852445 | Ex9M3P TM AC350 4P4T IEC | 1/2 |
| 4 | 400A | 852446 | Ex9M3P TM AC400 4P4T IEC | 1/2 |
| 4 | 500A | 852447 | Ex9M3P TM AC500 4P4T IEC | 1/2 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M4S up to 630 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 400A | 852448 | Ex9M4S TM AC400 3P IEC | 1/1 |
| 3 | 500A | 852449 | Ex9M4S TM AC500 3P IEC | 1/1 |
| 3 | 630A | 852450 | Ex9M4S TM AC630 3P IEC | 1/1 |
| 4 | 400A | 852451 | Ex9M4S TM AC400 4P4T IEC | 1/1 |
| 4 | 500A | 852452 | Ex9M4S TM AC500 4P4T IEC | 1/1 |
| 4 | 630A | 852453 | Ex9M4S TM AC630 4P4T IEC | 1/1 |

Version Ex9M4N up to 630 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 400A | 852454 | Ex9M4N TM AC400 3P IEC | 1/1 |
| 3 | 500A | 852455 | Ex9M4N TM AC500 3P IEC | 1/1 |
| 3 | 630A | 852456 | Ex9M4N TM AC630 3P IEC | 1/1 |
| 4 | 400A | 852457 | Ex9M4N TM AC400 4P4T IEC | 1/1 |
| 4 | 500A | 852458 | Ex9M4N TM AC500 4P4T IEC | 1/1 |
| 4 | 630A | 852459 | Ex9M4N TM AC630 4P4T IEC | 1/1 |

Version Ex9M4Q up to 630 A, $I_{cu} = 75$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 75$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 400A | 852460 | Ex9M4Q TM AC400 3P IEC | 1/1 |
| 3 | 500A | 852461 | Ex9M4Q TM AC500 3P IEC | 1/1 |
| 3 | 630A | 852462 | Ex9M4Q TM AC630 3P IEC | 1/1 |
| 4 | 400A | 852463 | Ex9M4Q TM AC400 4P4T IEC | 1/1 |
| 4 | 500A | 852464 | Ex9M4Q TM AC500 4P4T IEC | 1/1 |
| 4 | 630A | 852465 | Ex9M4Q TM AC630 4P4T IEC | 1/1 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M4H up to 630 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{IN} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 400A | 852466 | Ex9M4H TM AC400 3P IEC | 1/1 |
| 3 | 500A | 852467 | Ex9M4H TM AC500 3P IEC | 1/1 |
| 3 | 630A | 852468 | Ex9M4H TM AC630 3P IEC | 1/1 |
| 4 | 400A | 852469 | Ex9M4H TM AC400 4P4T IEC | 1/1 |
| 4 | 500A | 852470 | Ex9M4H TM AC500 4P4T IEC | 1/1 |
| 4 | 630A | 852471 | Ex9M4H TM AC630 4P4T IEC | 1/1 |

Version Ex9M4P up to 630 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{IN} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 400A | 852472 | Ex9M4P TM AC400 3P IEC | 1/1 |
| 3 | 500A | 852473 | Ex9M4P TM AC500 3P IEC | 1/1 |
| 3 | 630A | 852474 | Ex9M4P TM AC630 3P IEC | 1/1 |
| 4 | 400A | 852475 | Ex9M4P TM AC400 4P4T IEC | 1/1 |
| 4 | 500A | 852476 | Ex9M4P TM AC500 4P4T IEC | 1/1 |
| 4 | 630A | 852477 | Ex9M4P TM AC630 4P4T IEC | 1/1 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M5S up to 800 A, $I_{cu} = 36$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 36$ kA at 415 V AC
- I_f can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 630A | 852478 | Ex9M5S TM AC630 3P IEC | 1/1 |
| 3 | 700A | 852479 | Ex9M5S TM AC700 3P IEC | 1/1 |
| 3 | 800A | 852480 | Ex9M5S TM AC800 3P IEC | 1/1 |
| 4 | 630A | 852481 | Ex9M5S TM AC630 4P4T IEC | 1/1 |
| 4 | 700A | 852482 | Ex9M5S TM AC700 4P4T IEC | 1/1 |
| 4 | 800A | 852483 | Ex9M5S TM AC800 4P4T IEC | 1/1 |

Version Ex9M5N up to 800 A, $I_{cu} = 50$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 50$ kA at 415 V AC
- I_f can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 630A | 852484 | Ex9M5N TM AC630 3P IEC | 1/1 |
| 3 | 700A | 852485 | Ex9M5N TM AC700 3P IEC | 1/1 |
| 3 | 800A | 852486 | Ex9M5N TM AC800 3P IEC | 1/1 |
| 4 | 630A | 852487 | Ex9M5N TM AC630 4P4T IEC | 1/1 |
| 4 | 700A | 852488 | Ex9M5N TM AC700 4P4T IEC | 1/1 |
| 4 | 800A | 852489 | Ex9M5N TM AC800 4P4T IEC | 1/1 |

Version Ex9M5Q up to 800 A, $I_{cu} = 75$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 75$ kA at 415 V AC
- I_f can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{th} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current In | Part no. | Model | Packing |
|-------|------------------|----------|--------------------------|---------|
| 3 | 630A | 852490 | Ex9M5Q TM AC630 3P IEC | 1/1 |
| 3 | 700A | 852491 | Ex9M5Q TM AC700 3P IEC | 1/1 |
| 3 | 800A | 852492 | Ex9M5Q TM AC800 3P IEC | 1/1 |
| 4 | 630A | 852493 | Ex9M5Q TM AC630 4P4T IEC | 1/1 |
| 4 | 700A | 852494 | Ex9M5Q TM AC700 4P4T IEC | 1/1 |
| 4 | 800A | 852495 | Ex9M5Q TM AC800 4P4T IEC | 1/1 |

Moulded Case Circuit Breakers Ex9M AC TM

Version Ex9M5H up to 800 A, $I_{cu} = 100$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 100$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{M} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 630A | 852496 | Ex9M5H TM AC630 3P IEC | 1/1 |
| 3 | 700A | 852497 | Ex9M5H TM AC700 3P IEC | 1/1 |
| 3 | 800A | 852498 | Ex9M5H TM AC800 3P IEC | 1/1 |
| 4 | 630A | 852499 | Ex9M5H TM AC630 4P4T IEC | 1/1 |
| 4 | 700A | 852500 | Ex9M5H TM AC700 4P4T IEC | 1/1 |
| 4 | 800A | 852501 | Ex9M5H TM AC800 4P4T IEC | 1/1 |

Version Ex9M5P up to 800 A, $I_{cu} = 150$ kA

- 3 and 4-pole Moulded Case Circuit Breakers
- $I_{cs} = I_{cu} = 150$ kA at 415 V AC
- I_r can be set in range $(0.7 - 1.0) \times I_n$
- I_i can be set in range $(5 - 10) \times I_n$
- $I_{M} = I_i$
- Mounting screws, screw type terminals as well as phase barriers in the scope of delivery



| Poles | Rated current I_n | Part no. | Model | Packing |
|-------|---------------------|----------|--------------------------|---------|
| 3 | 630A | 852502 | Ex9M5P TM AC630 3P IEC | 1/1 |
| 3 | 700A | 852503 | Ex9M5P TM AC700 3P IEC | 1/1 |
| 3 | 800A | 852504 | Ex9M5P TM AC800 3P IEC | 1/1 |
| 4 | 630A | 852505 | Ex9M5P TM AC630 4P4T IEC | 1/1 |
| 4 | 700A | 852506 | Ex9M5P TM AC700 4P4T IEC | 1/1 |
| 4 | 800A | 852507 | Ex9M5P TM AC800 4P4T IEC | 1/1 |

AC MCCB Switch Disconnectors Ex9MSD

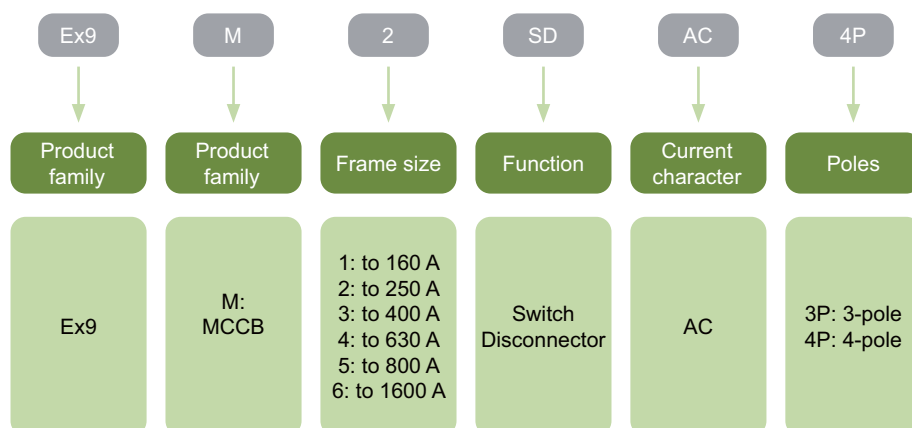


- AC MCCB Switch Disconnectors
- Frame sizes M1-M6
- Rated operating current up to 1 600 A
- Tested according to EN 60947-3
- AC current character
- 3 and 4-pole versions
- Rated operating voltage U_e up to 690 V AC

AC versions of MCCB based Switch Disconnectors Ex9MSD are used as a main switch in many various circuits. They are intended primarily for applications in power distribution. Testing according to IEC / EN 60947-3 standards ensures functions and reliability for wide variety of applications.

These switch disconnectors follows the same design pattern than their circuit breaker equivalents. Therefore there is possibility to use the fully compatible range of external and internal accessories including extended rotary handles, auxiliary contacts, tripping units and many others.

Type Key

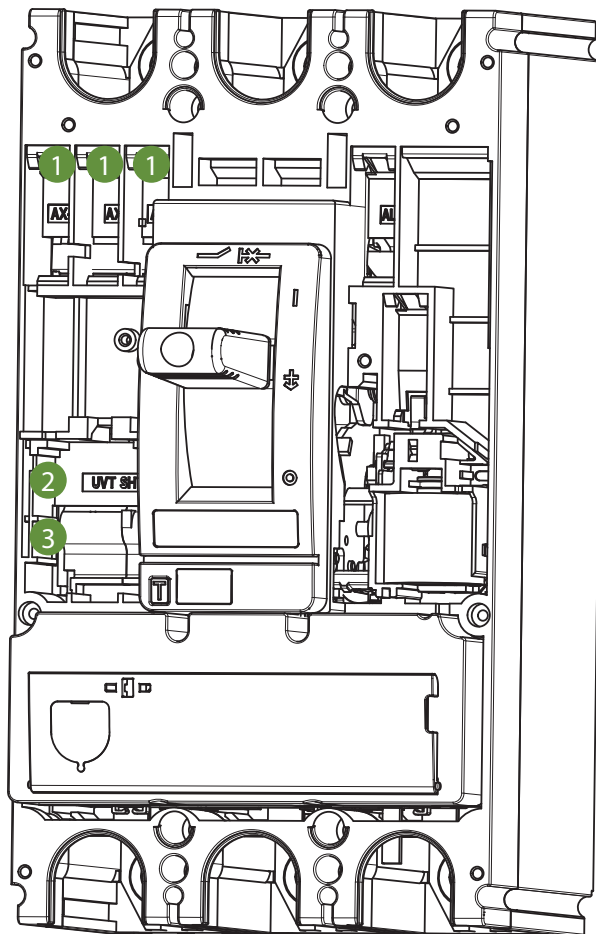


Certification marks



AC MCCB Switch Disconnectors Ex9MSD

Internal accessories Ex9M1-M5 AC SD



1

Auxiliary contact
AX21M

2

Shunt trip release
SHT2i
1 unit or UVT2i

3

Undervoltage release
UVT2i
1 unit or SHT2i

Auxiliary contact AX21M

Shunt trip releases SHT2i

Undervoltage releases UVT2i

see page 92

see page 92

see page 93

AC MCCB Switch Disconnectors Ex9MSD

External accessories Ex9M1-M5 AC SD



Phase barriers
PB2i



Terminal cover set, short
TCV2i



Terminal cover set, long
TCE2i



Remote operator
MOD2i



Direct rotary handle
RHD2i



Extended rotary handle
ERH2i

Phase barriers PHS2i

see page 94

Terminal cover, short TCV2i

see page 95

Remote operators MOD2i

see page 93

Extended rotary handles ERH2i

see page 94

Terminal cover, long TCE2i

see page 96

Direct rotary handles RHD2i

see page 94

AC MCCB Switch Disconnectors Ex9MSD

External accessories Ex9M1-M5 AC SD



Tunnel terminals
MC2i W



Mounting depth spacers
WG i



Box terminals
MC2i



Screw terminals
MCS2i



Din rail adapter
DRA2i

Tunnel terminals MC2i W

see page 95

Mounting depth spacers WG i

see page 96

Box terminals MC2i

see page 95

Screw terminals MCS2i

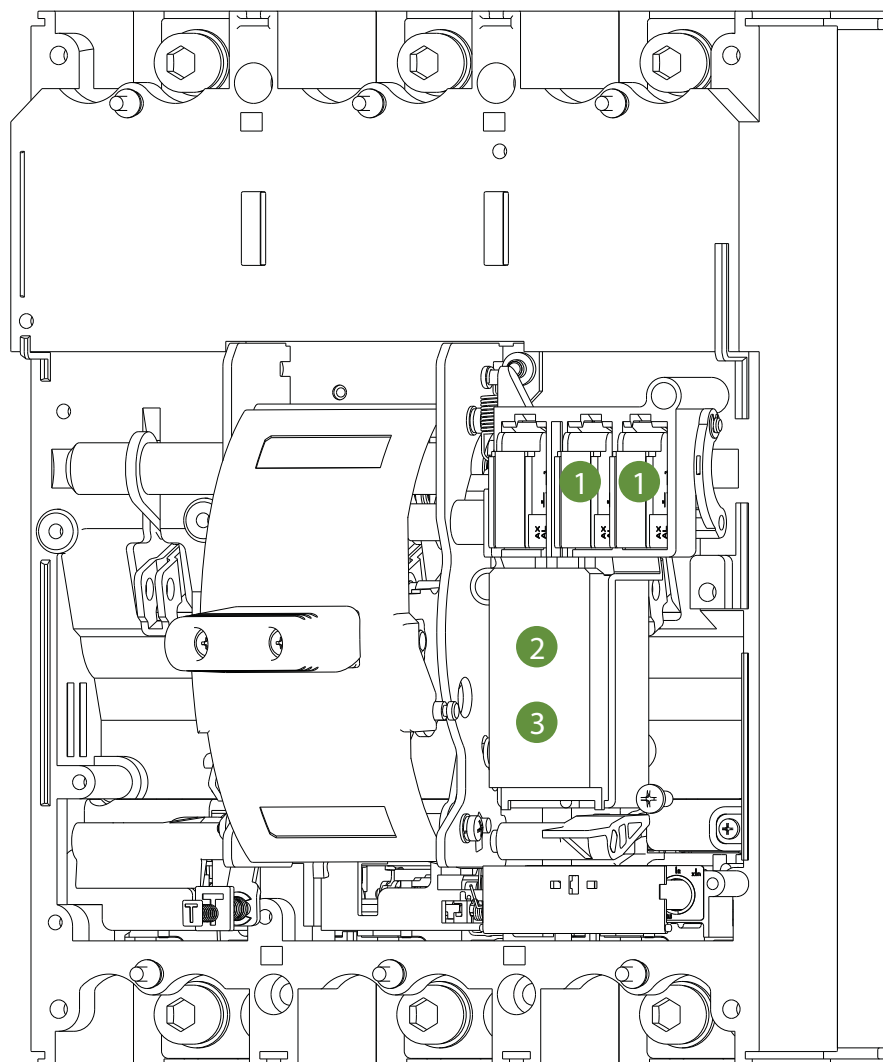
see page 95

Din rail DRA2i

see page 96

AC MCCB Switch Disconnectors Ex9M6SD

Internal accessories Ex9M6 AC SD



1

Auxiliary contact
AX21M

2

Shunt trip release
SHT26
1 unit or UVT2i

3

Undervoltage release
UVT26
1 unit or SHT2i

Auxiliary contact AX21M

Shunt trip releases SHT26

Undervoltage releases UVT26

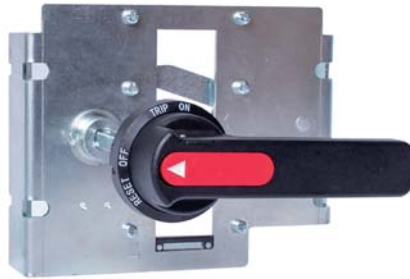
see page 92

see page 92

see page 93

AC MCCB Switch Disconnectors Ex9M6SD

External accessories Ex9M6 AC SD



Extended rotatory
handle
ERH26



Extended handle
LHD26



Front connection
plate
JP26

Extended rotatory handles ERH26

Extended handles LHD26

Front connection plate JP26

see page 99

see page 99

see page 99

AC MCCB Switch Disconnectors Ex9MSD

3-pole versions

- Mounting screws as well as phase barriers in the scope of delivery



| Rated current i_n | Frame size | Article No. | Type | Packing |
|---------------------|------------|-------------|-------------------|---------|
| 160 A | M1 | 852837 | Ex9M1SD AC 3P | 1/8 |
| 250 A | M2 | 852841 | Ex9M2SD AC 3P | 1/8 |
| 400 A | M3 | 852845 | Ex9M3SD AC 3P | 1/2 |
| 630 A | M4 | 852849 | Ex9M4SD AC 3P | 1/1 |
| 800 A | M5 | 852853 | Ex9M5SD AC 3P | 1/1 |
| 800 A | M6 | 852863 | Ex9M6SD AC800 3P | 1/1 |
| 1 000 A | M6 | 852857 | Ex9M6SD AC1000 3P | 1/1 |
| 1 250 A | M6 | 852859 | Ex9M6SD AC1250 3P | 1/1 |
| 1 600 A | M6 | 852861 | Ex9M6SD AC1600 3P | 1/1 |

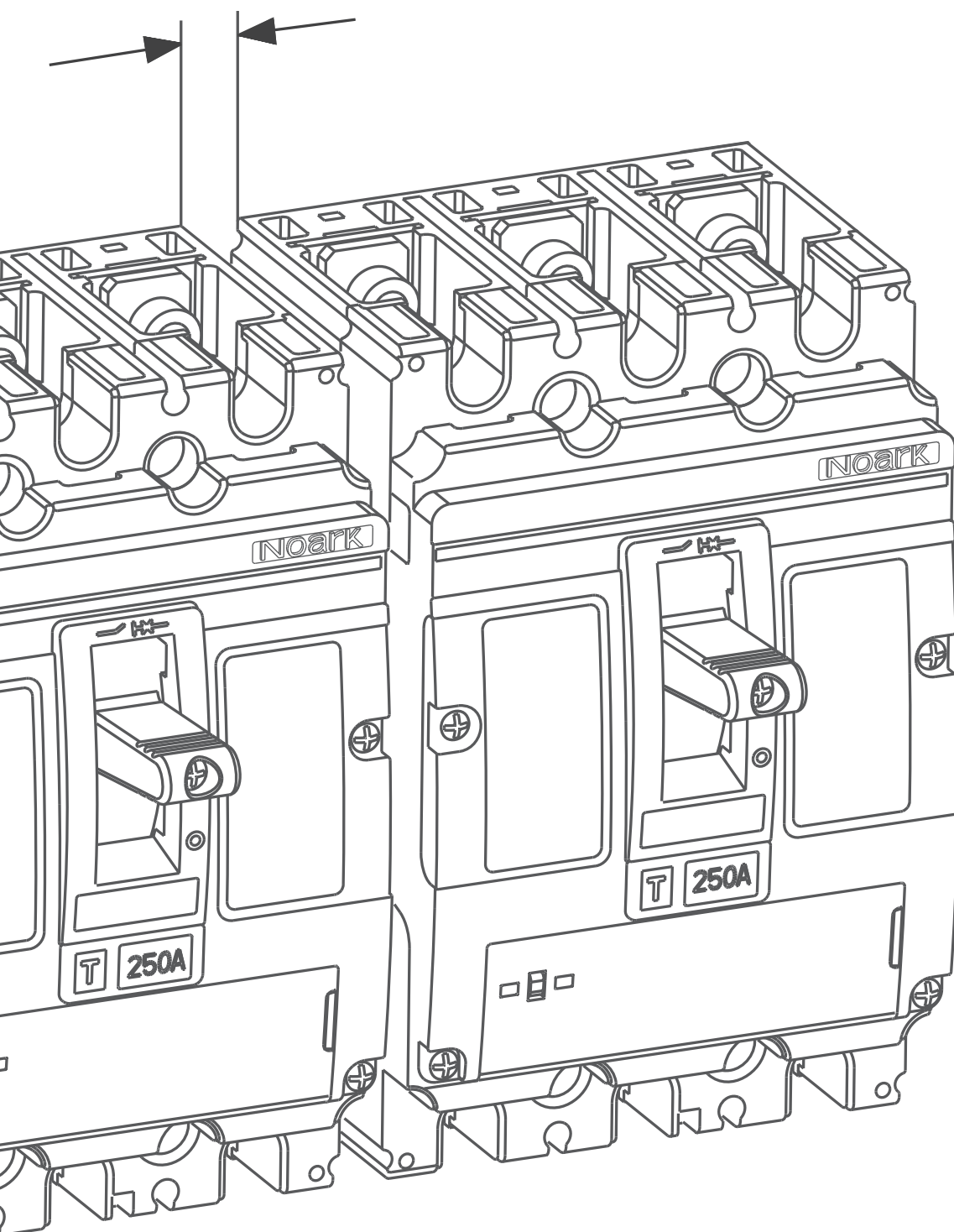
4-pole versions

- Mounting screws as well as phase barriers in the scope of delivery



| Rated current i_n | Frame size | Article No. | Type | Packing |
|---------------------|------------|-------------|-------------------|---------|
| 160 A | M1 | 852838 | Ex9M1SD AC 4P | 1/8 |
| 250 A | M2 | 852842 | Ex9M2SD AC 4P | 1/8 |
| 400 A | M3 | 852846 | Ex9M3SD AC 4P | 1/2 |
| 630 A | M4 | 852850 | Ex9M4SD AC 4P | 1/1 |
| 800 A | M5 | 852854 | Ex9M5SD AC 4P | 1/1 |
| 800 A | M6 | 852864 | Ex9M6SD AC800 4P | 1/1 |
| 1 000 A | M6 | 852858 | Ex9M6SD AC1000 4P | 1/1 |
| 1 250 A | M6 | 852860 | Ex9M6SD AC1250 4P | 1/1 |
| 1 600 A | M6 | 852862 | Ex9M6SD AC1600 4P | 1/1 |

Technical Data



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AC TMM Moulded
Case Circuit Breakers
Ex9M

AC Electronic
MCCB
Ex9M SU20L
(DIP switches)

AC Electronic
MCCB
Ex9M SU20L
(LCD version)

AC MCCB
Switch Disconnectors
Ex9MSD

DC TMM Moulded
Case Circuit Breakers
Ex9M

DC MCCB
Switch Disconnectors
Ex9MSD

Accessories
for
MCCBs

Technical Data Ex9M1 AC TM

AC 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 |
|------------------------|-------|

| | |
|--------------------|-------|
| Alarm contact unit | AL21M |
|--------------------|-------|

| | |
|---------------------|-------|
| Shunt trip releases | SHT21 |
|---------------------|-------|

| | |
|-----------------------|-------|
| Undervoltage releases | UVT21 |
|-----------------------|-------|

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

| | |
|------------------------|-------|
| Extended rotary handle | ERH21 |
|------------------------|-------|

| | |
|------------------------|-------|
| Remote motor operators | MOD21 |
|------------------------|-------|

| | |
|-----------------------|--------------|
| Terminal cover, short | TCV21 3P, 4P |
|-----------------------|--------------|

| | |
|----------------------|--------------|
| Terminal cover, long | TCE21 3P, 4P |
|----------------------|--------------|

| | |
|---------------|-------|
| Phase barrier | PHS21 |
|---------------|-------|

| | |
|----------------------|------|
| Connection terminals | MC21 |
|----------------------|------|

| | |
|------------------|-------|
| DIN-rail adapter | DRA21 |
|------------------|-------|

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

Technical Data Ex9M1 AC TM

AC TM Moulded Case Circuit Breakers up to 160 A

Electrical parameters

| | Ex9M1S | Ex9M1N | Ex9M1Q | Ex9M1H | Ex9M1P |
|---|--|-------------------------------|-------------------------------|---------------------------------|---------------------------------|
| Tested according to | IEC/EN 60947-2 | | | | |
| Rated op. voltage U_e | 380 / 400 / 415, 440, 500, 660 / 690 V AC | | | | |
| Rated insulation voltage U_i | 1 000 V | | | | |
| Rated impulse withstand voltage U_{imp} | 8 kV | | | | |
| Rated frequency | 50/60 Hz | | | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 36 kA / 415 V 6 kA / 690 V | 50 kA / 415 V 8 kA / 690 V | 70 kA / 415 V 8 kA / 690 V | 100 kA / 415 V 10 kA / 690 V | 150 kA / 415 V 10 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 36 kA / 415 V 6 kA / 690 V | 50 kA / 415 V 8 kA / 690 V | 70 kA / 415 V 8 kA / 690 V | 100 kA / 415 V 10 kA / 690 V | 150 kA / 415 V 10 kA / 690 V |
| 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 | 8 000 operation cycles / 415 V AC 2 000 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] | | | | | | | | | | |
|-----------|---------------|------|------|------|------|------|------|------|-------|-------|-------|
| | 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 AC TM

AC TM Moulded Case Circuit Breakers up to 160 A

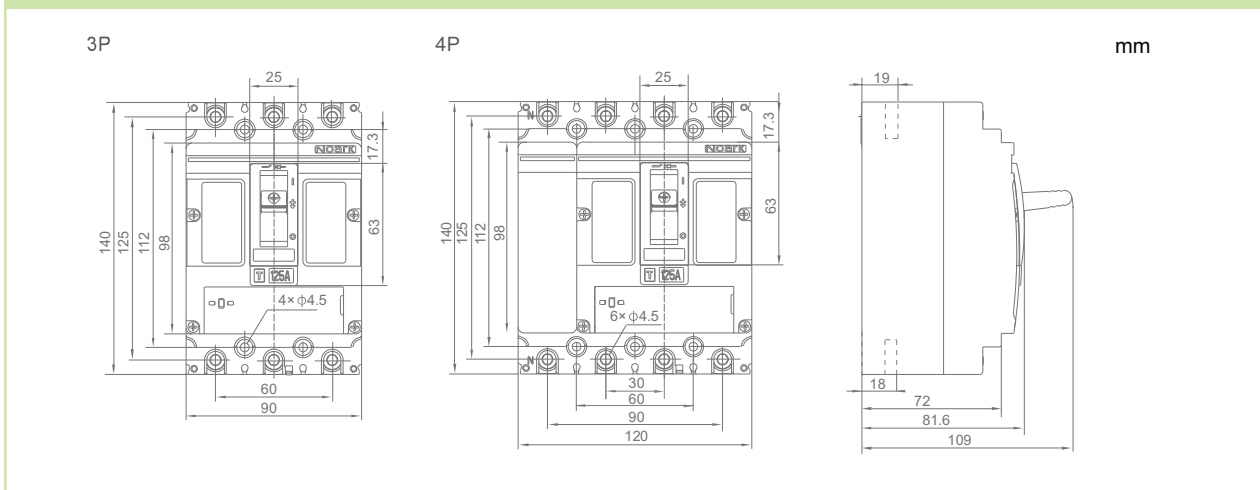
Mechanical parameters

| | |
|-------------------------------|--|
| 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 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 3P / 4P | 1.2 kg / 1.7 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

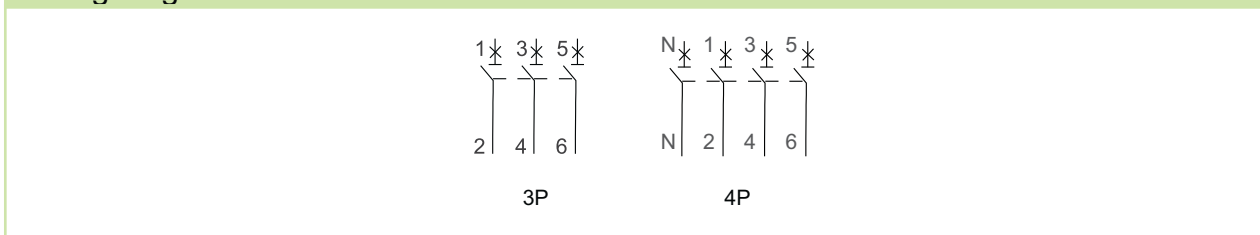
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 8 kV | 8 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=8$ kV) | 2200 V AC | 2050 V AC | 1900 V AC | 1770 V AC |

Dimensions



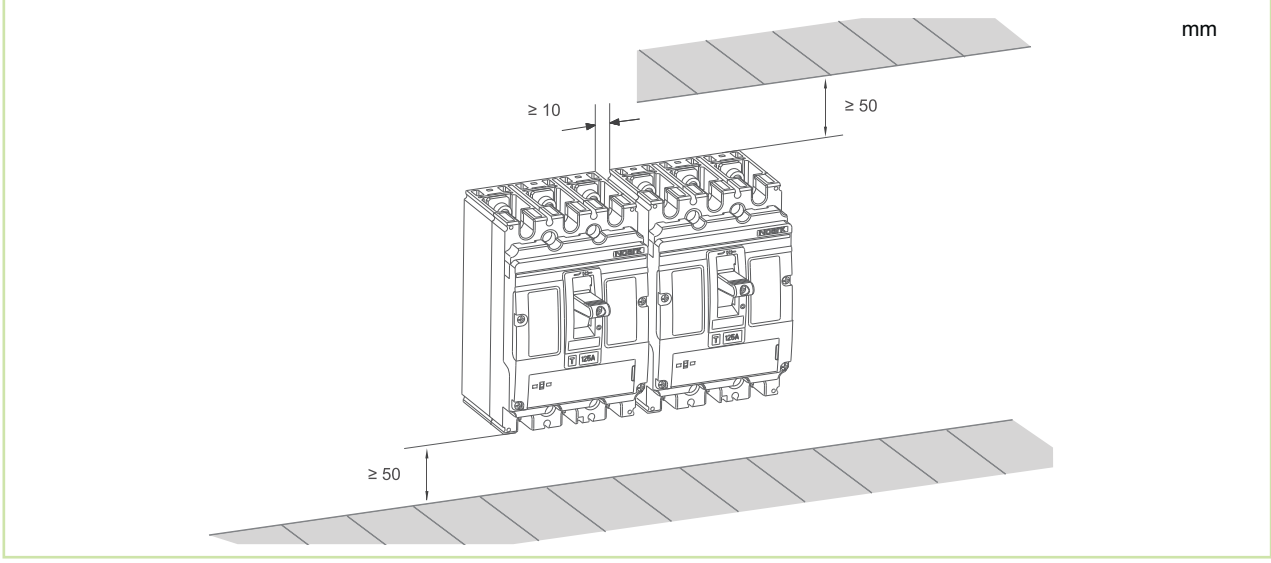
Wiring diagram



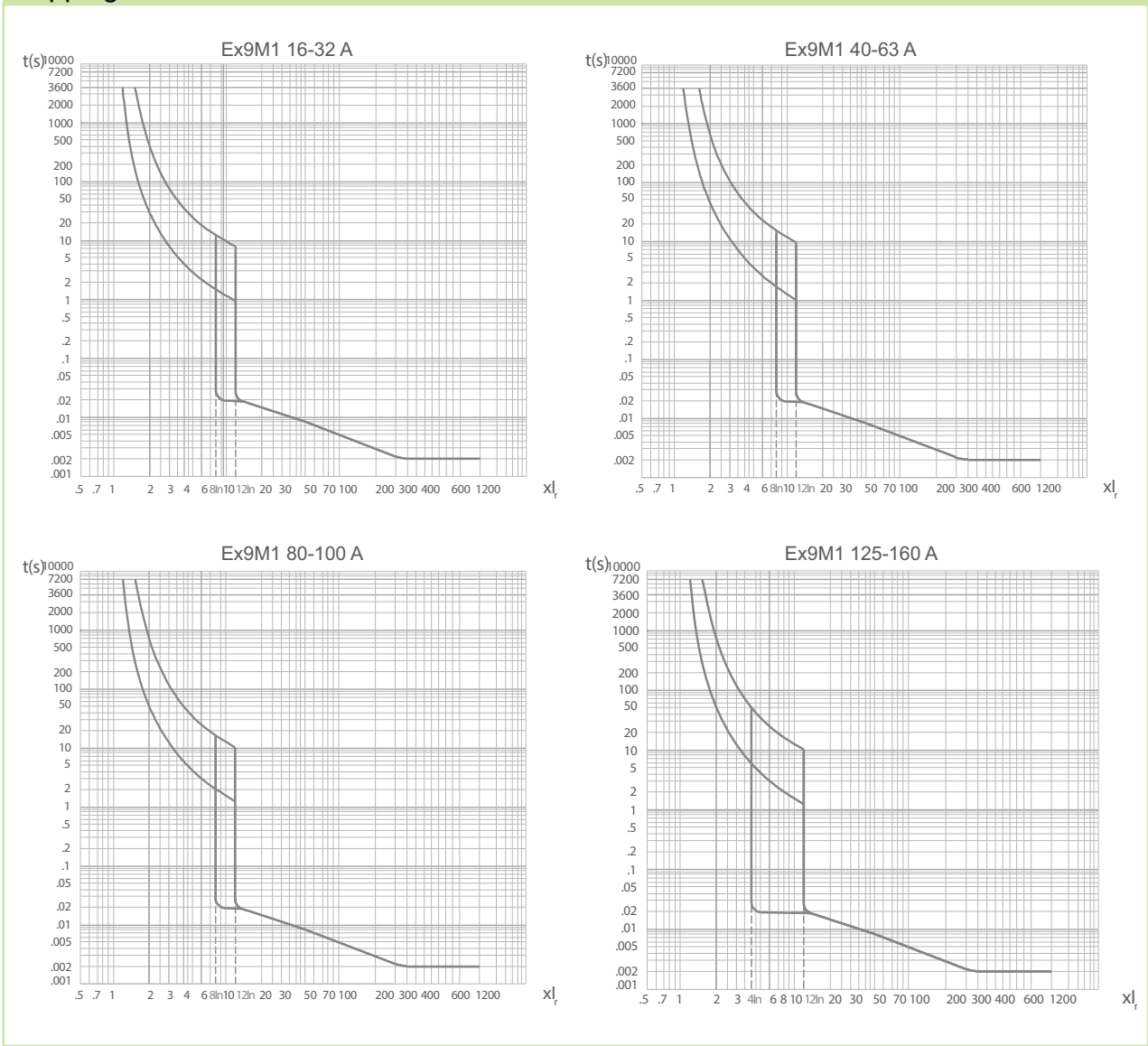
Technical Data Ex9M1 AC TM

AC TM Moulded Case Circuit Breakers up to 160 A

Installation space



Tripping characteristics



Ordering information p. 9

Technical Data Ex9M2 AC TM

AC TM Moulded Case Circuit Breakers up to 250 A

General parameters

Suitable for commercial as well as industrial applications

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

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

$I_{IN} = I_i$

Internal accessories

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

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

External accessories

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

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

Technical Data Ex9M2 AC TM

AC TM Moulded Case Circuit Breakers up to 250 A

Electrical parameters

| | Ex9M2S | Ex9M2N | Ex9M2Q | Ex9M2H | Ex9M2P |
|---|--|-------------------------------|-------------------------------|---------------------------------|---------------------------------|
| Tested according to | IEC/EN 60947-2 | | | | |
| Rated op. voltage U_e | 380 / 400 / 415, 440, 500, 660 / 690 V AC | | | | |
| Rated insulation voltage U_i | 1 000 V | | | | |
| Rated impulse withstand voltage U_{imp} | 8 kV | | | | |
| Rated frequency | 50/60 Hz | | | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 36 kA / 415 V 6 kA / 690 V | 50 kA / 415 V 8 kA / 690 V | 70 kA / 415 V 8 kA / 690 V | 100 kA / 415 V 10 kA / 690 V | 150 kA / 415 V 10 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 36 kA / 415 V 6 kA / 690 V | 50 kA / 415 V 8 kA / 690 V | 70 kA / 415 V 8 kA / 690 V | 100 kA / 415 V 10 kA / 690 V | 150 kA / 415 V 10 kA / 690 V |
| Rated current | 125 / 160 / 180 / 200 / 225 / 250 A | | | | |
| Utilization category | A | | | | |
| Mechanical service life | 15 000 operation cycles | | | | |
| Electrical service life | 5 000 operation cycles / 415 V AC 2 000 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] | | | | | |
|-----------|---------------|-------|-------|-------|-------|-------|
| | 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 | 216 | 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 AC TM

AC TM Moulded Case Circuit Breakers up to 250 A

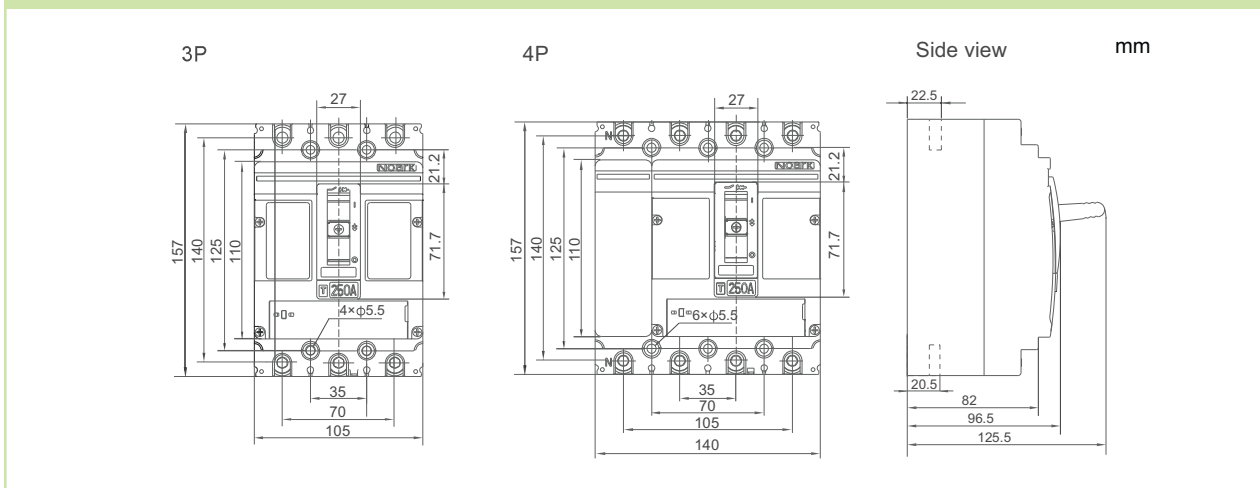
Mechanical parameters

| | |
|-------------------------------|--|
| 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 ² |
| Fastening torque of terminals | 25 Nm |
| Ambient temperature | -40 — +70 °C |
| Relative humidity | ≤ 50 % at 40 °C, ≤ 90 % monthly average |
| Pollution degree | 3 |
| Weight 3P / 4P | 1.85 kg / 2.5 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

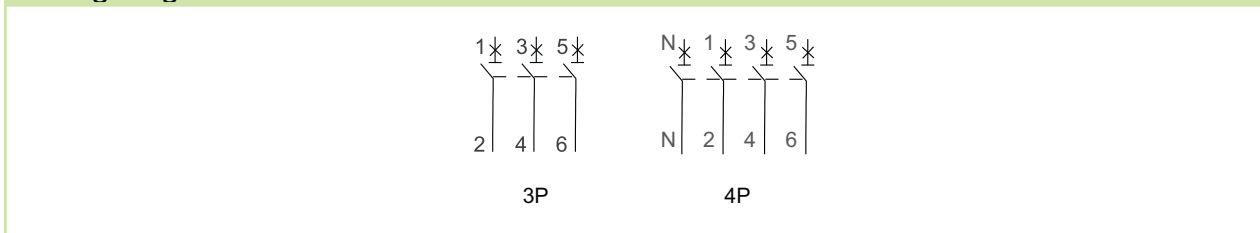
Derating coefficient of technical parameters based on altitude

| Altitude | ≤ 2 000 m | 3 000 m | 4 000 m | 5 000 m |
|--|-----------|-----------|-----------|-----------|
| Derating op. current I _n coefficient | 1 | 0.96 | 0.93 | 0.9 |
| Maximum rated op. voltage U _e | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U _i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U _{imp} | 8 kV | 8 kV | 8 kV | 8 kV |
| Dielectric properties (U _{imp} =8 kV) | 2200 V AC | 2050 V AC | 1900 V AC | 1770 V AC |

Dimensions



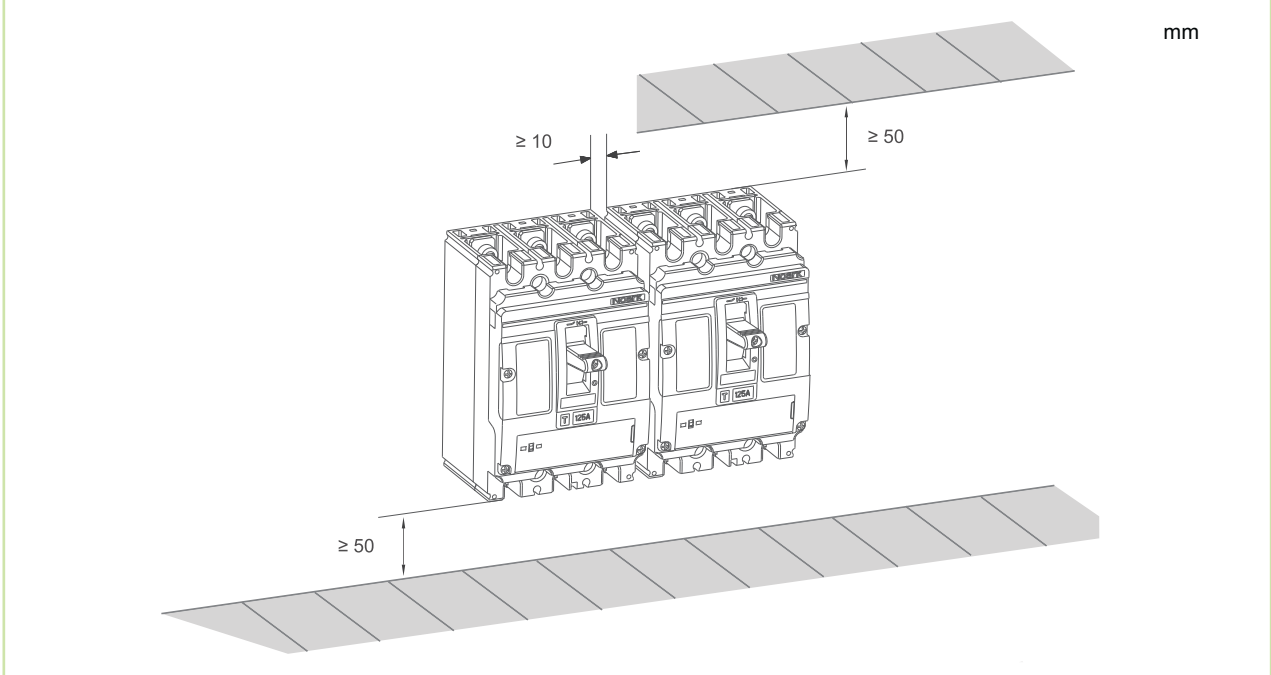
Wiring diagram



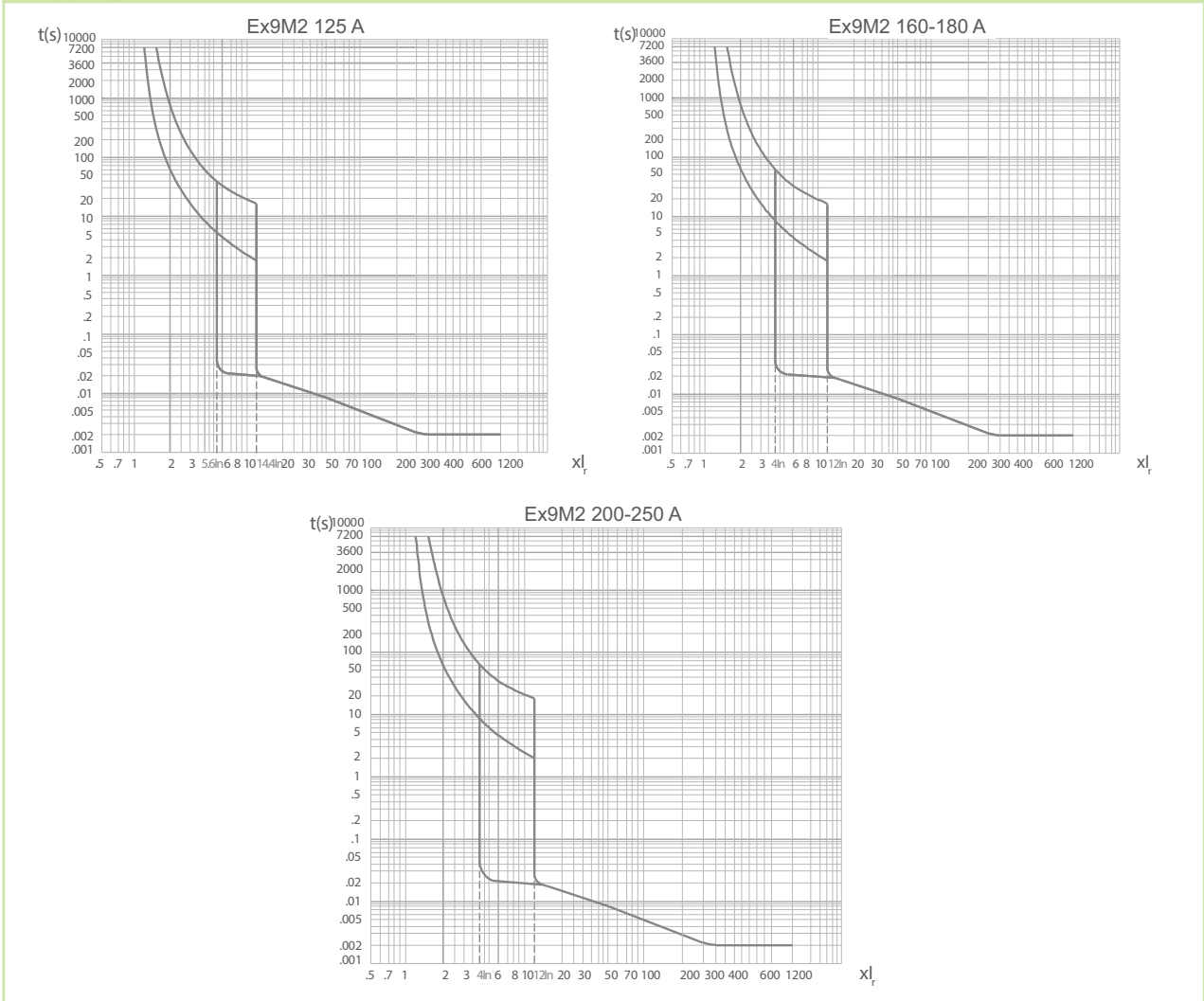
Technical Data Ex9M2 AC TM

AC TM Moulded Case Circuit Breakers up to 250 A

Installation space



Tripping characteristics



Ordering information p. 12

Technical Data Ex9M3 AC TM

AC 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 |
|------------------------|-------|

| | |
|--------------------|-------|
| Alarm contact unit | AL21M |
|--------------------|-------|

| | |
|---------------------|-------|
| Shunt trip releases | SHT22 |
|---------------------|-------|

| | |
|-----------------------|-------|
| Undervoltage releases | UVT22 |
|-----------------------|-------|

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

External accessories

| | |
|----------------------|-------|
| Direct rotary handle | RHD23 |
|----------------------|-------|

| | |
|------------------------|-------|
| Extended rotary handle | ERH23 |
|------------------------|-------|

| | |
|------------------------|-------|
| Remote motor operators | MOD23 |
|------------------------|-------|

| | |
|-----------------------|--------------|
| Terminal cover, short | TCV23 3P, 4P |
|-----------------------|--------------|

| | |
|----------------------|--------------|
| Terminal cover, long | TCE23 3P, 4P |
|----------------------|--------------|

| | |
|---------------|-------|
| Phase barrier | PHS23 |
|---------------|-------|

| | |
|----------------------|------|
| Connection terminals | MC23 |
|----------------------|------|

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

Technical Data Ex9M3 AC TM

AC TM Moulded Case Circuit Breakers up to 500 A

Electrical parameters

| | Ex9M3S | Ex9M3N | Ex9M3Q | Ex9M3H | Ex9M3P |
|---|--|--------------------------------|--------------------------------|---------------------------------|---------------------------------|
| Tested according to | IEC/EN 60947-2 | | | | |
| Rated op. voltage U_e | 380 / 400 / 415, 440, 500, 660 / 690 V AC | | | | |
| Rated insulation voltage U_i | 1 000 V | | | | |
| Rated impulse withstand voltage U_{imp} | 12 kV | | | | |
| Rated frequency | 50/60 Hz | | | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 36 kA / 415 V 10 kA / 690 V | 50 kA / 415 V 12 kA / 690 V | 70 kA / 415 V 12 kA / 690 V | 100 kA / 415 V 15 kA / 690 V | 150 kA / 415 V 15 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 36 kA / 415 V 10 kA / 690 V | 50 kA / 415 V 12 kA / 690 V | 70 kA / 415 V 12 kA / 690 V | 100 kA / 415 V 15 kA / 690 V | 150 kA / 415 V 15 kA / 690 V |
| Rated current | 250 / 315 / 350 / 400 / 500 A | | | | |
| Utilization category | A | | | | |
| Mechanical service life | 15 000 operation cycles | | | | |
| Electrical service life | 4 000 operation cycles / 415 V AC 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] | | | | |
|-----------|---------------|-------|-------|-------|-------|
| | 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 AC TM

AC TM Moulded Case Circuit Breakers up to 500 A

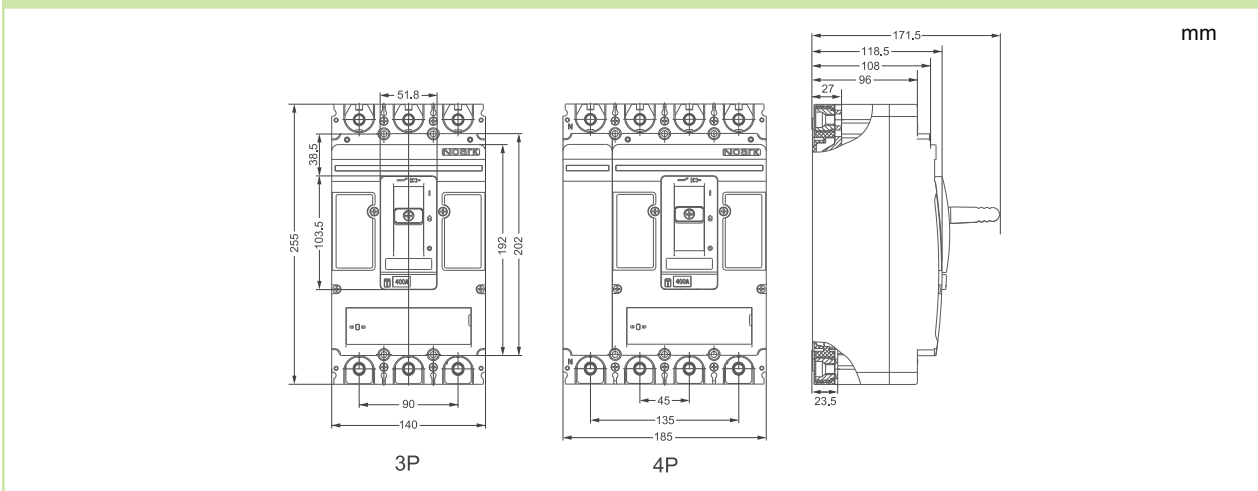
Mechanical parameters

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

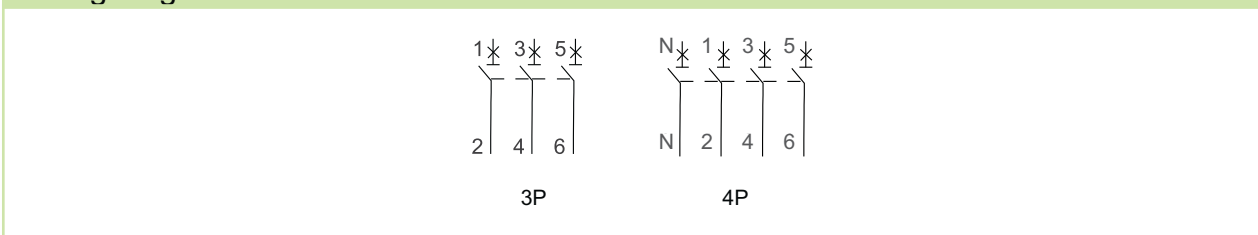
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Dimensions



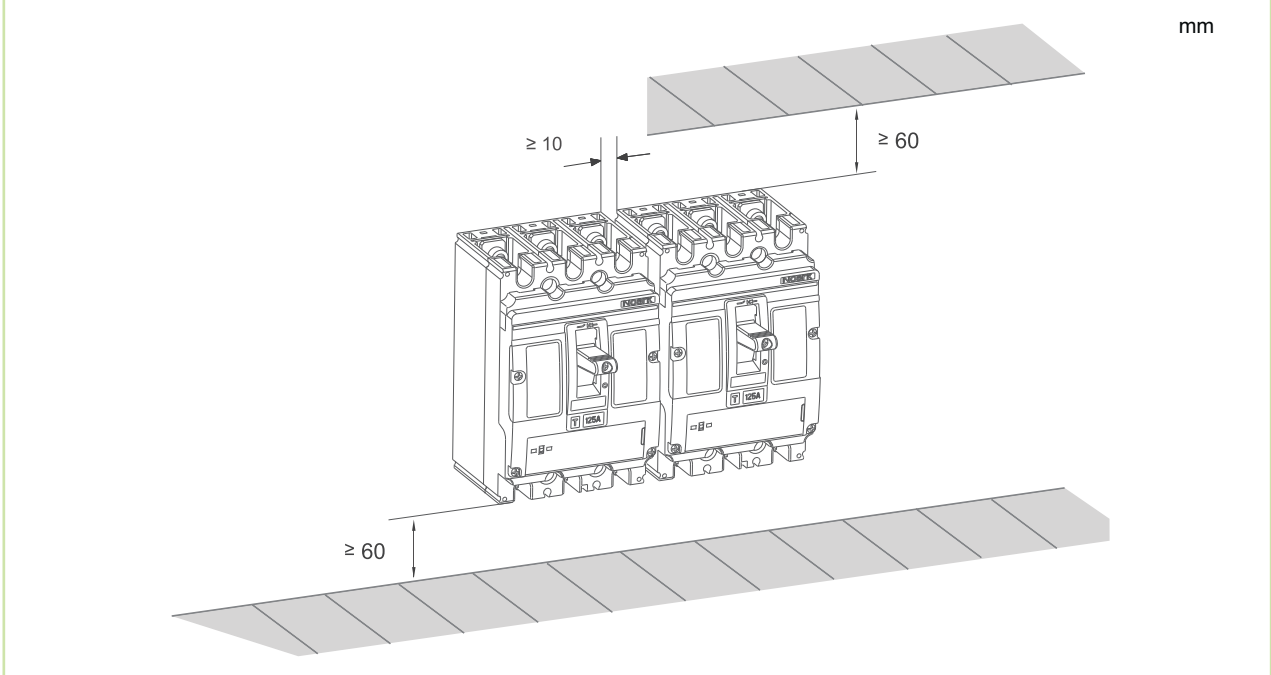
Wiring diagram



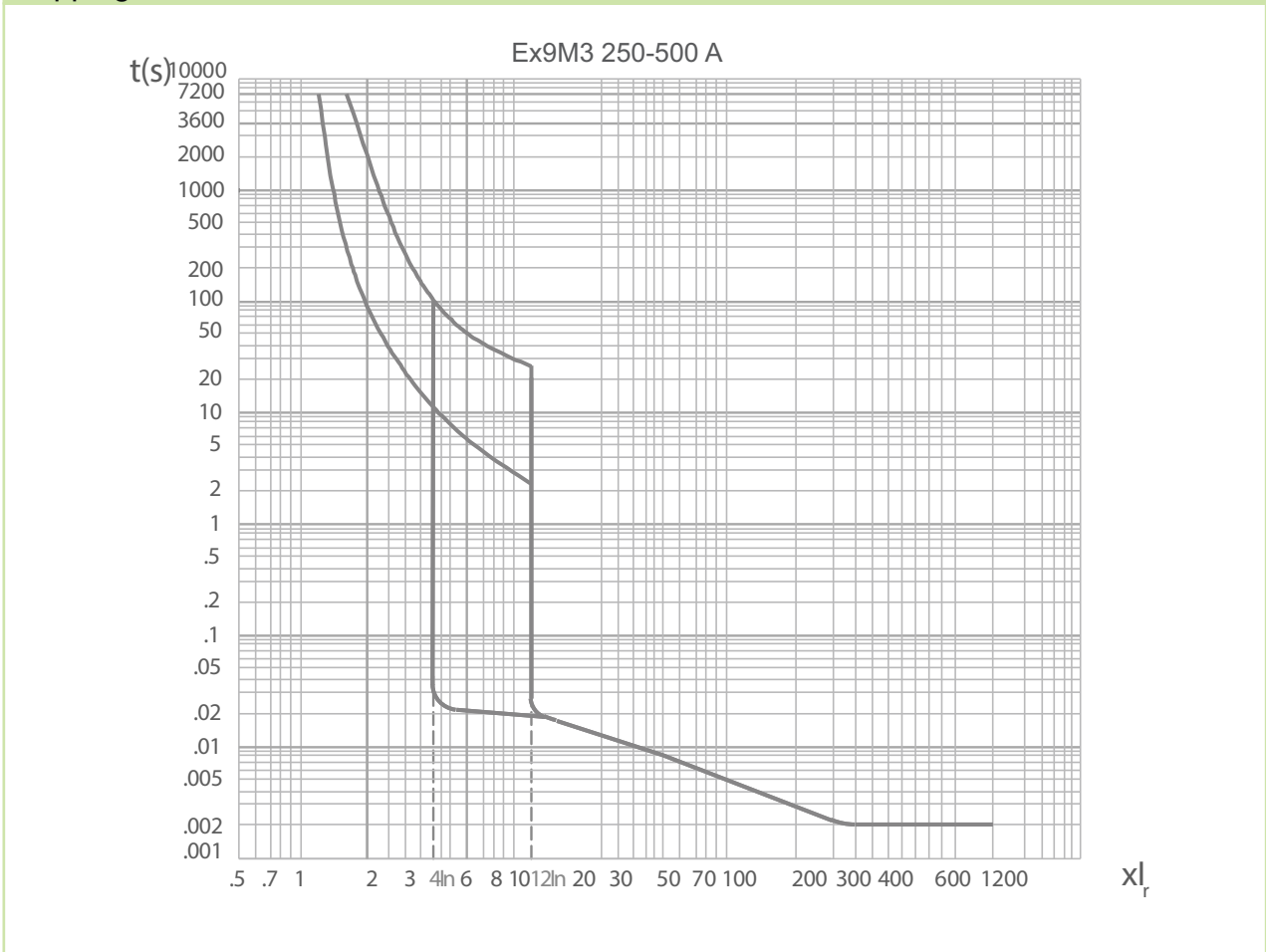
Technical Data Ex9M3 AC TM

AC TM Moulded Case Circuit Breakers up to 500 A

Installation space



Tripping characteristics



Technical Data Ex9M4 AC TM

AC 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 |
|------------------------|-------|

| | |
|--------------------|-------|
| Alarm contact unit | AL21M |
|--------------------|-------|

| | |
|---------------------|-------|
| Shunt trip releases | SHT24 |
|---------------------|-------|

| | |
|-----------------------|-------|
| Undervoltage releases | UVT24 |
|-----------------------|-------|

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

| | |
|------------------------|-------|
| Extended rotary handle | ERH24 |
|------------------------|-------|

| | |
|------------------------|-------|
| Remote motor operators | MOD24 |
|------------------------|-------|

| | |
|-----------------------|--------------|
| Terminal cover, short | TCV24 3P, 4P |
|-----------------------|--------------|

| | |
|----------------------|--------------|
| Terminal cover, long | TCE24 3P, 4P |
|----------------------|--------------|

| | |
|---------------|-------|
| Phase barrier | PHS24 |
|---------------|-------|

| | |
|----------------------|---------|
| Connection terminals | MC24 W2 |
|----------------------|---------|

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

Technical Data Ex9M4 AC TM

AC TM Moulded Case Circuit Breakers up to 630 A

Electrical parameters

| | Ex9M4S | Ex9M4N | Ex9M4Q | Ex9M4H | Ex9M4P |
|---|--|--------------------------------|--------------------------------|---------------------------------|---------------------------------|
| Tested according to | IEC/EN 60947-2 | | | | |
| Rated op. voltage U_e | 380 / 400 / 415, 440, 500, 660 / 690 V AC | | | | |
| Rated insulation voltage U_i | 1 000 V | | | | |
| Rated impulse withstand voltage U_{imp} | 12 kV | | | | |
| Rated frequency | 50/60 Hz | | | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 36 kA / 415 V 12 kA / 690 V | 50 kA / 415 V 15 kA / 690 V | 70 kA / 415 V 15 kA / 690 V | 100 kA / 415 V 20 kA / 690 V | 150 kA / 415 V 30 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 36 kA / 415 V 12 kA / 690 V | 50 kA / 415 V 15 kA / 690 V | 70 kA / 415 V 15 kA / 690 V | 100 kA / 415 V 15 kA / 690 V | 150 kA / 415 V 15 kA / 690 V |
| Rated current | 400 / 500 / 630 A | | | | |
| Utilization category | A | | | | |
| Mechanical service life | 10 000 operation cycles | | | | |
| Electrical service life | 3 000 operation cycles / 415 V AC 1 000 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 AC TM

AC TM Moulded Case Circuit Breakers up to 630 A

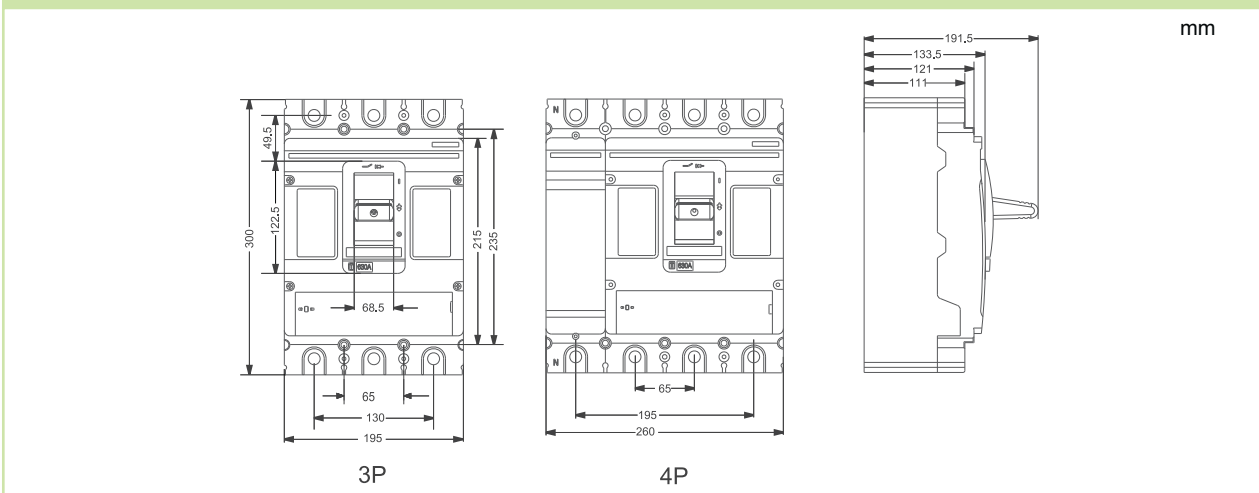
Mechanical parameters

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

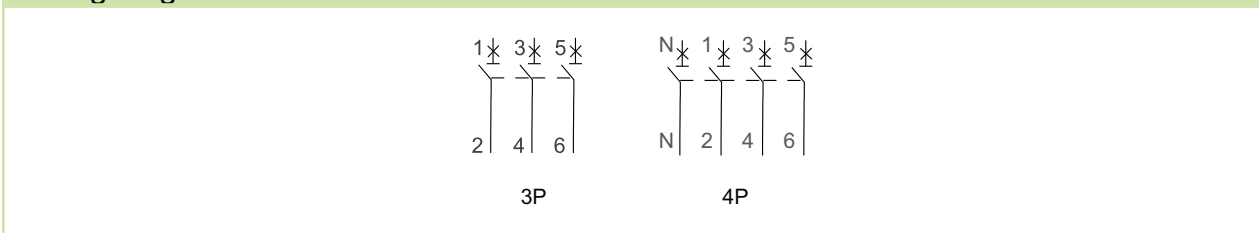
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Dimensions



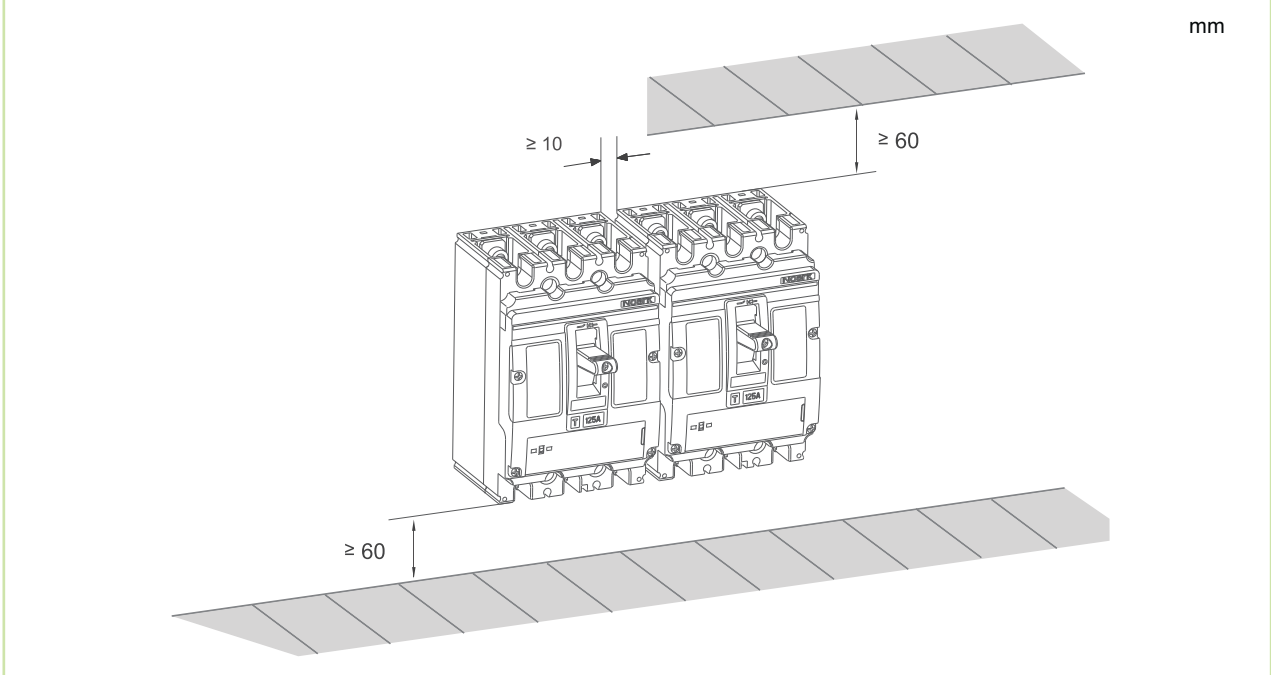
Wiring diagram



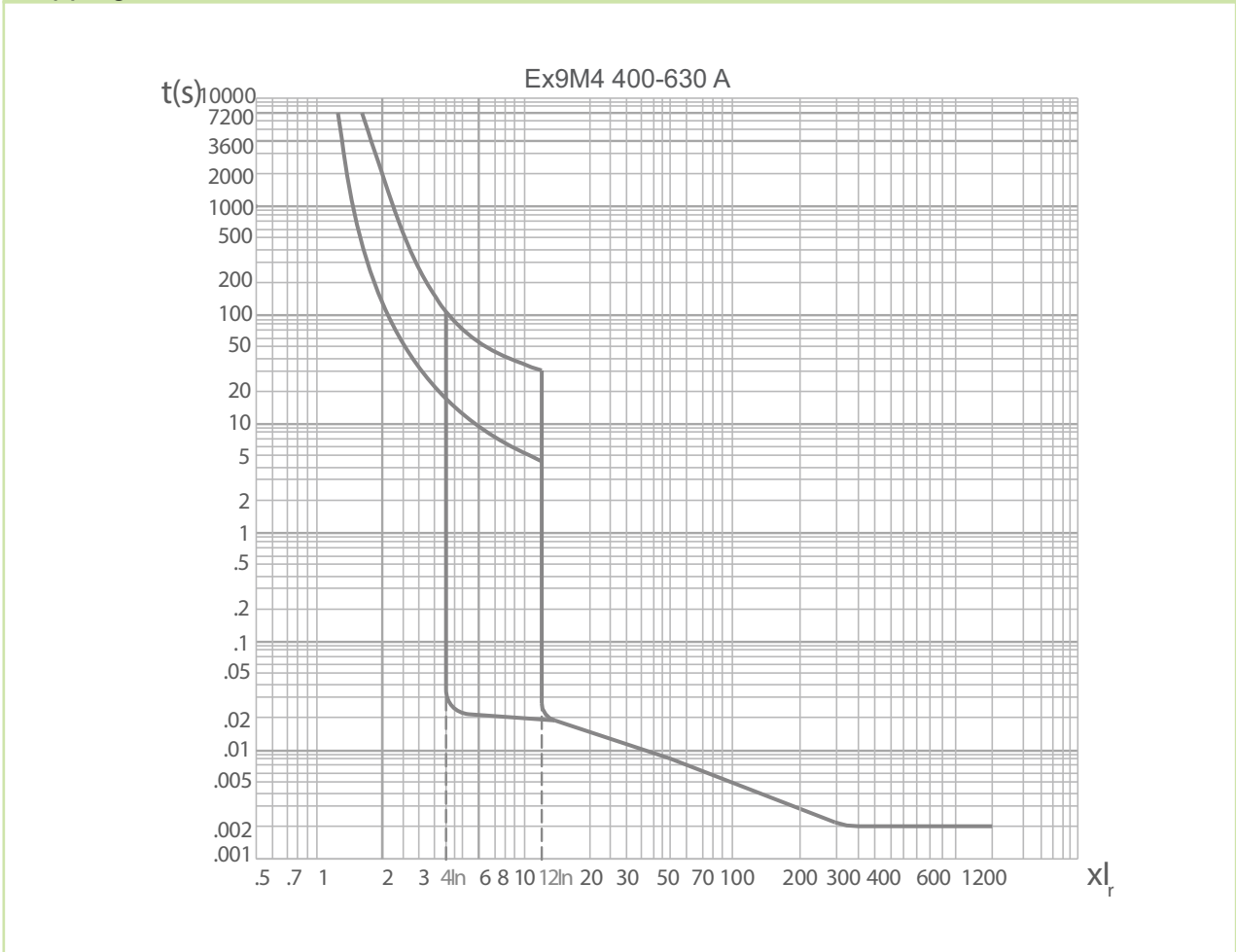
Technical Data Ex9M4 AC TM

AC TM Moulded Case Circuit Breakers up to 630 A

Installation space



Tripping characteristics



Technical Data Ex9M5 AC TM

AC 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 | |
| Alarm contact unit | AL21M | |
| Shunt trip releases | SHT24 | |
| Undervoltage releases | UVT24 | |

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 | |
| Extended rotary handle | ERH24 | |
| Remote motor operators | MOD24 | |
| Terminal cover, short | TCV24 3P, 4P | |
| Terminal cover, long | TCE24 3P, 4P | |
| Phase barrier | PHS24 | |
| Connection terminals | MC24 W2 | |

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

Technical Data Ex9M5 AC TM

AC TM Moulded Case Circuit Breakers up to 800 A

Electrical parameters

| | Ex9M5S | Ex9M5N | Ex9M5Q | Ex9M5H | Ex9M5P |
|---|--|--------------------------------|--------------------------------|---------------------------------|---------------------------------|
| Tested according to | IEC/EN 60947-2 | | | | |
| Rated op. voltage U_e | 380 / 400 / 415, 440, 500, 660 / 690 V AC | | | | |
| Rated insulation voltage U_i | 1 000 V | | | | |
| Rated impulse withstand voltage U_{imp} | 12 kV | | | | |
| Rated frequency | 50/60 Hz | | | | |
| Rated ultimate short-circuit breaking capacity I_{cu} | 36 kA / 415 V 12 kA / 690 V | 50 kA / 415 V 15 kA / 690 V | 70 kA / 415 V 15 kA / 690 V | 100 kA / 415 V 20 kA / 690 V | 150 kA / 415 V 30 kA / 690 V |
| Rated service short-circuit breaking capacity I_{cs} | 36 kA / 415 V 12 kA / 690 V | 50 kA / 415 V 15 kA / 690 V | 70 kA / 415 V 15 kA / 690 V | 100 kA / 415 V 15 kA / 690 V | 150 kA / 415 V 15 kA / 690 V |
| Rated current | 630 / 700 / 800 A | | | | |
| Utilization category | A | | | | |
| Mechanical service life | 10 000 operation cycles | | | | |
| Electrical service life | 2 000 operation cycles / 415 V AC 1 000 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] | | |
|-----------|---------------|-------|-------|
| | 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 AC TM

AC TM Moulded Case Circuit Breakers up to 800 A

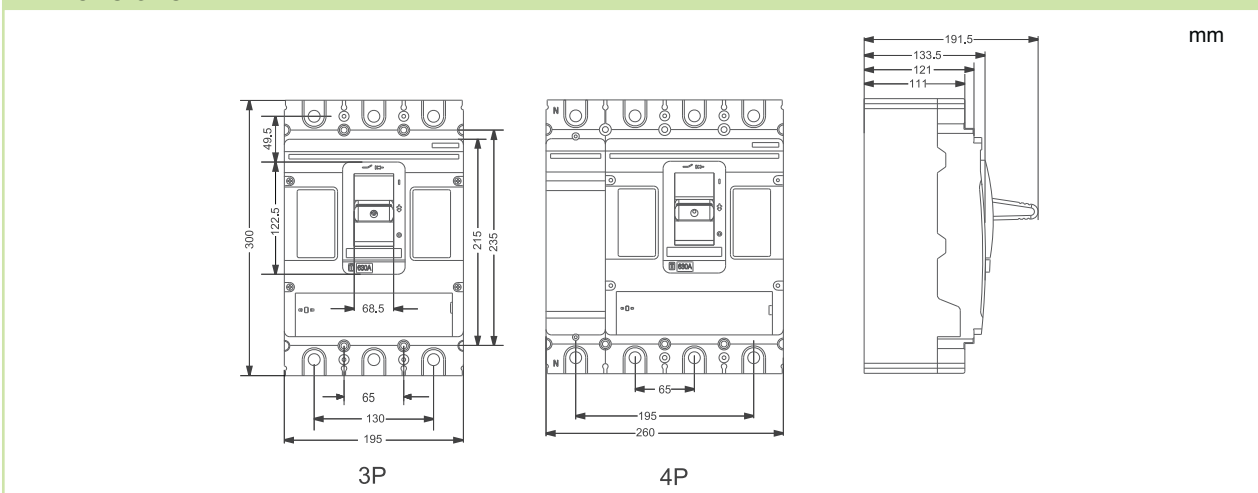
Mechanical parameters

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

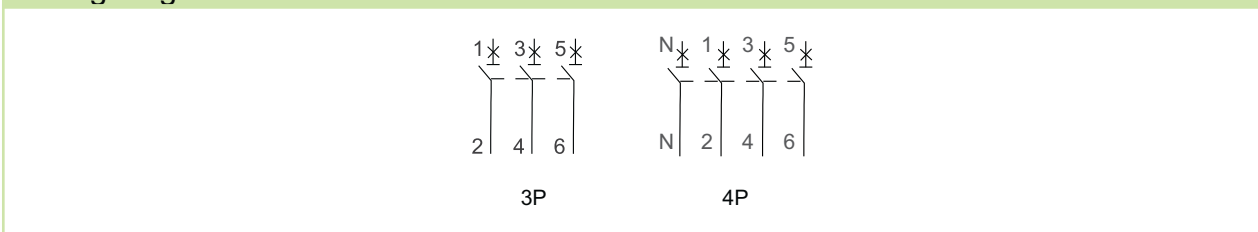
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Dimensions



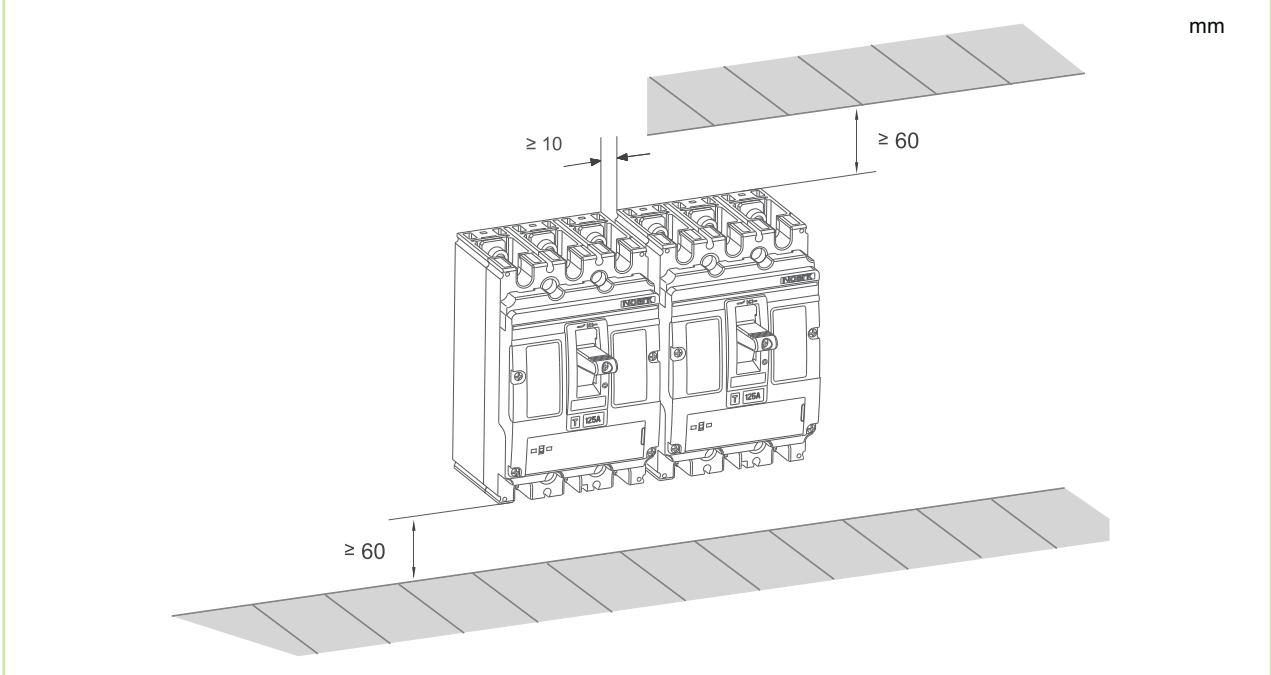
Wiring diagram



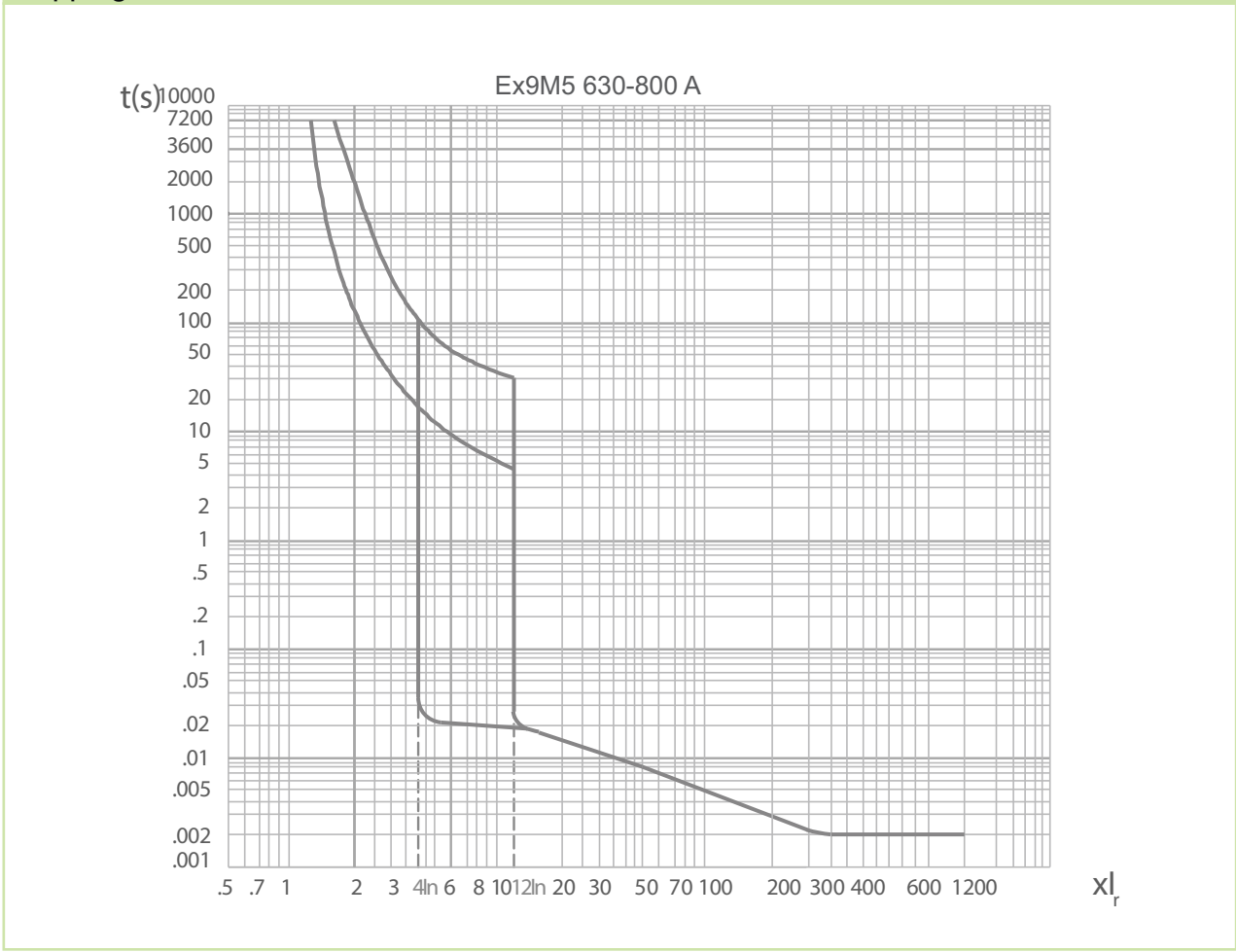
Technical Data Ex9M5 AC TM

AC TM Moulded Case Circuit Breakers up to 800 A

Installation space



Tripping characteristics



Technical Data Ex9M1SD AC

AC Moulded Case Switch Disconnectors up to 160 A

General parameters

Suitable for commercial as well as industrial applications

Internal accessories

| | | |
|--|-------|-----------------|
| Auxiliary contact unit | AX21M | 112071 |
| Shunt trip releases | SHT21 | 101397 — 101405 |
| Undervoltage releases | UVT21 | 101406 — 101407 |
| Max. number of installed internal accessories is 2 pcs of AX21M 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 |

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

Technical Data Ex9M1 AC SD

AC Moulded Case Switch Disconnectors up to 160 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 8 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 3.2 kA |
| Rated short-time withstand current I_{cw} | 2 kA / 1 s 2 kA / 3 s |
| Rated current | 160 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 15 000 operation cycles |
| Electrical service life | 2 000 operation cycles / 690 V AC |
| Total disconnection time at short circuit | < 2 ms |
| Line voltage connection | arbitrary above or below |

Power dissipation characteristics

| | |
|----------------------------|--------------|
| I_n | 160 A |
| Pole resistance (mΩ) | 0.8 |
| Pole power dissipation (W) | 20.5 |

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 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 3P / 4P | 1.05 kg / 1.55 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

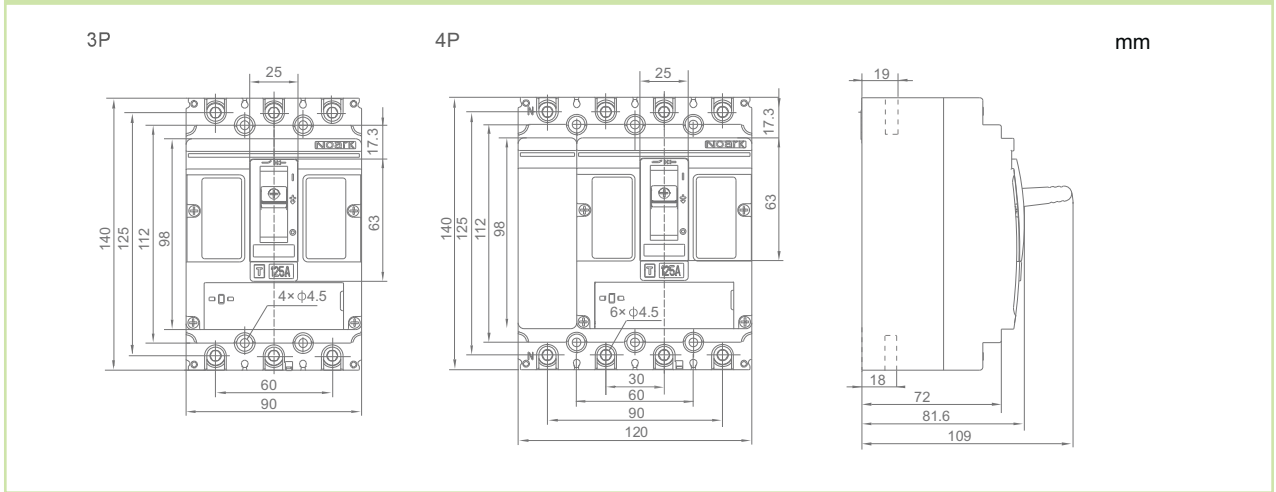
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 8 kV | 8 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=8$ kV) | 2200 V AC | 2050 V AC | 1900 V AC | 1770 V AC |

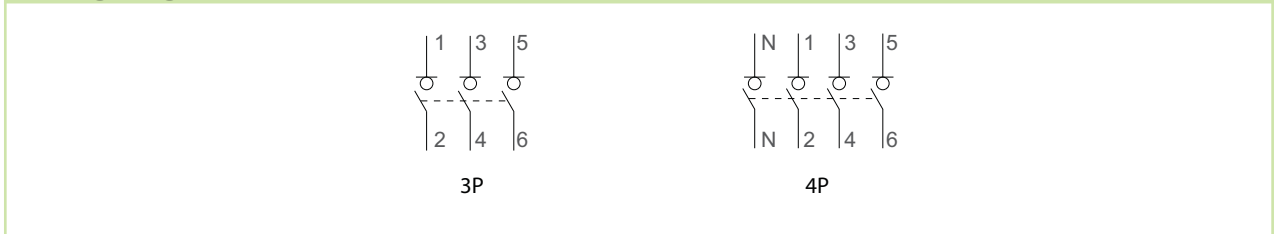
Technical Data Ex9M1SD AC

AC Moulded Case Switch Disconnectors up to 160 A

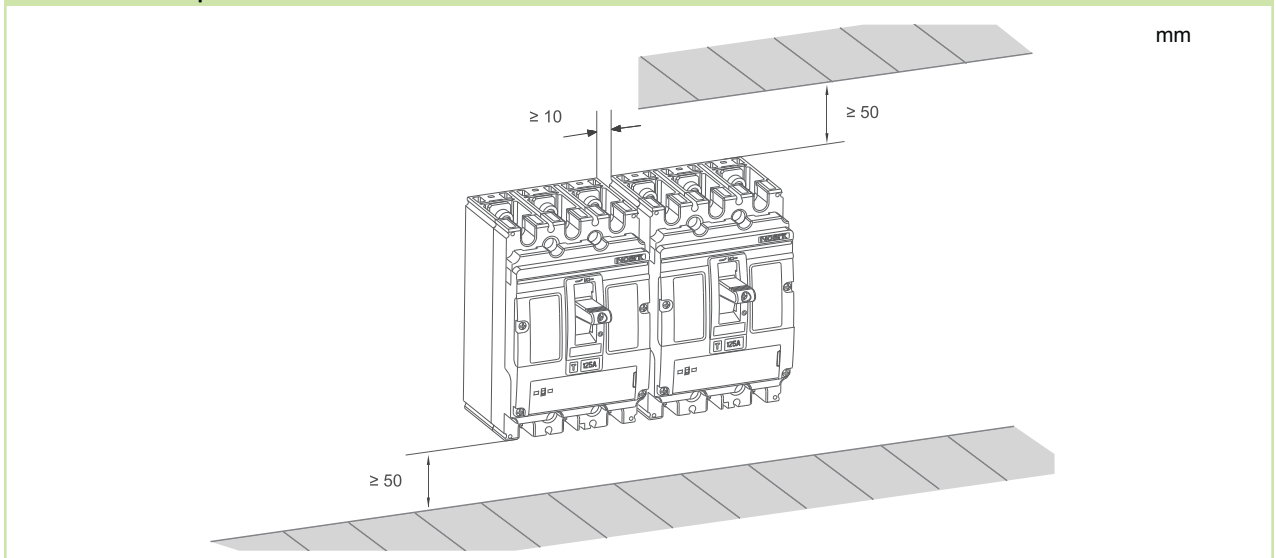
Dimensions



Wiring diagram



Installation space



Technical Data Ex9M2SD AC

AC Moulded Case Switch Disconnectors up to 250 A

General parameters

Suitable for commercial as well as industrial applications

Internal accessories

| | | |
|------------------------|-------|--|
| Auxiliary contact unit | AX21M | |
| Shunt trip releases | SHT22 | |
| Undervoltage releases | UVT22 | |

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

External accessories

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

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

Technical Data Ex9M2SD AC

AC Moulded Case Switch Disconnectors up to 250 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 8 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 5 kA / 690 V |
| Rated short-time withstand current I_{cw} | 3.2 kA / 1 s 3.2 kA / 3 s |
| Rated current | 250 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 15 000 operation cycles |
| Electrical service life | 2 000 operation cycles / 690 V AC |
| Total disconnection time at short circuit | < 2 ms |
| Line voltage connection | arbitrary above or below |

Power dissipation characteristics

| | |
|----------------------------|--------------|
| I_n | 250 A |
| Pole resistance (mΩ) | 0.4 |
| Pole power dissipation (W) | 25 |

Mechanical parameters

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

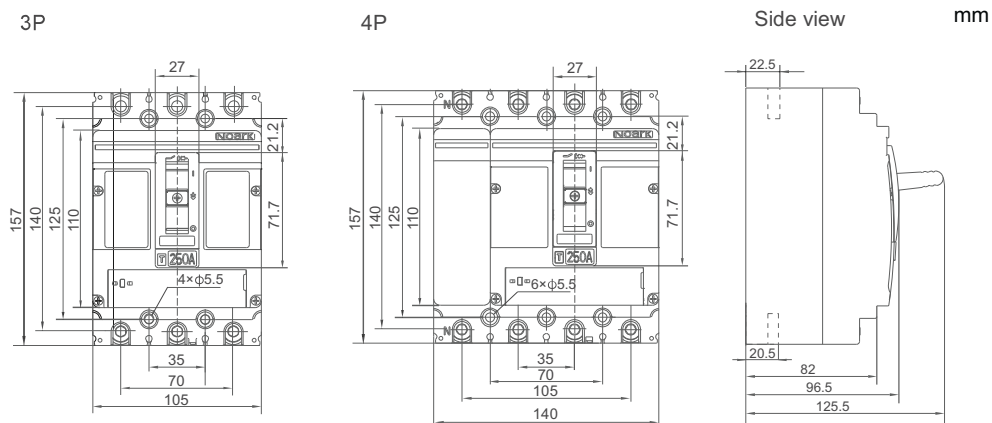
Derating coefficient of technical parameters based on altitude

| Altitude | ≤ 2 000 m | 3 000 m | 4 000 m | 5 000 m |
|---|-----------|-----------|-----------|-----------|
| Derating op. current I_n coefficient | 1 | 0.96 | 0.93 | 0.9 |
| Maximum rated op. voltage U_e | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 8 kV | 8 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=8$ kV) | 2200 V AC | 2050 V AC | 1900 V AC | 1770 V AC |

Technical Data Ex9M2SD AC

AC Moulded Case Switch Disconnectors up to 250 A

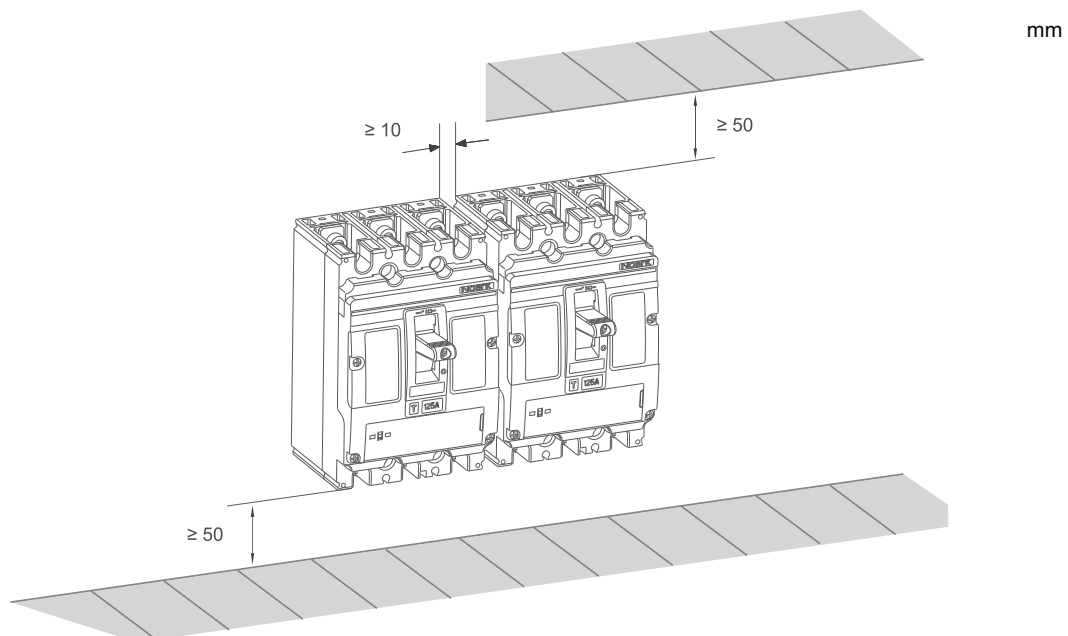
Dimensions



Wiring diagram



Installation space



Technical Data Ex9M3SD AC

AC Moulded Case Switch Disconnectors up to 400 A

General parameters

Suitable for commercial as well as industrial applications

Internal accessories

| | | |
|------------------------|-------|--|
| Auxiliary contact unit | AX21M | |
| Shunt trip releases | SHT22 | |
| Undervoltage releases | UVT22 | |

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

External accessories

| | | |
|------------------------|--------------|--|
| Direct rotary handle | RHD23 | |
| Extended rotary handle | ERH23 | |
| Remote motor operators | MOD23 | |
| Terminal cover, short | TCV23 3P, 4P | |
| Terminal cover, long | TCE23 3P, 4P | |
| Phase barrier | PHS23 | |
| Connection terminals | MC23 | |

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

Technical Data Ex9M3SD AC

AC Moulded Case Switch Disconnectors up to 400 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 12 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 8 kA / 690 V |
| Rated short-time withstand current I_{cw} | 5 kA / 1 s 5 kA / 3 s |
| Rated current | 400 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 15 000 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 |

Power dissipation characteristics

| | |
|-------------------------------|--------------|
| I_n | 400 A |
| Pole resistance (m Ω) | 0.15 |
| Pole power dissipation (W) | 24 |

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 kg / 6.5 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

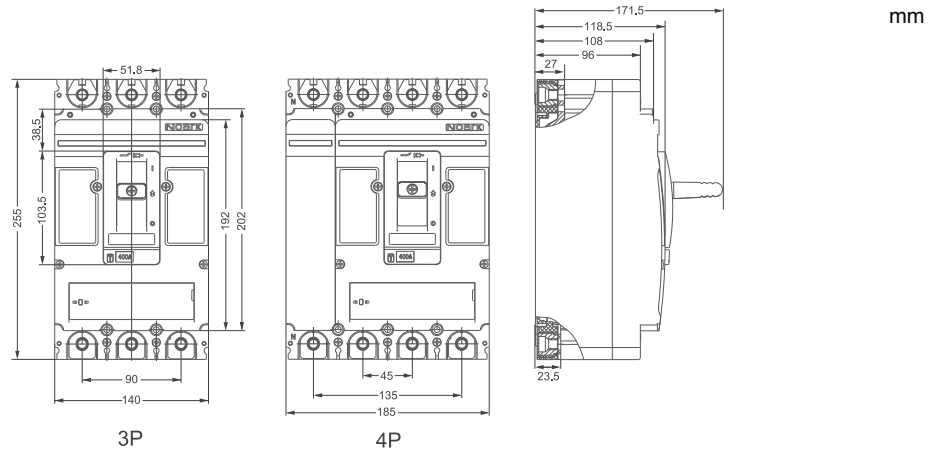
Derating coefficient of technical parameters based on altitude

| Altitude | $\leq 2\ 000$ 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Technical Data Ex9M3SD AC

AC Moulded Case Switch Disconnectors up to 400 A

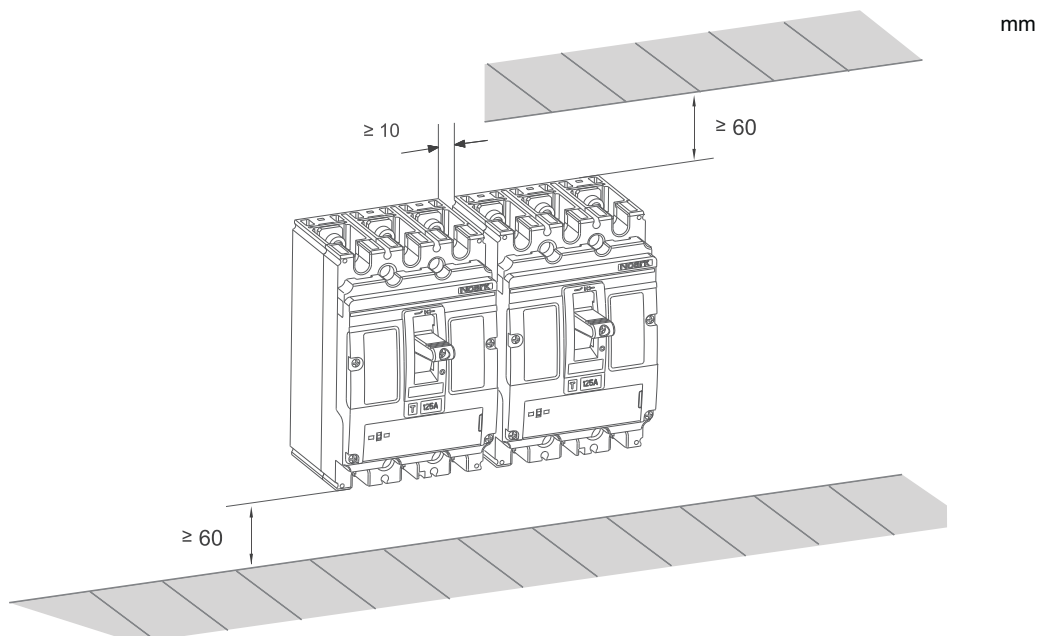
Dimensions



Wiring diagram



Installation space



Technical Data Ex9M4SD AC

AC Moulded Case Switch Disconnectors up to 630 A

General parameters

Suitable for commercial as well as industrial applications

Internal accessories

| | | |
|------------------------|-------|--|
| Auxiliary contact unit | AX21M | |
| Shunt trip releases | SHT24 | |
| Undervoltage releases | UVT24 | |

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

External accessories

| | | |
|------------------------|--------------|--|
| Direct rotary handle | RHD24 | |
| Extended rotary handle | ERH24 | |
| Remote motor operators | MOD24 | |
| Terminal cover, short | TCV24 3P, 4P | |
| Terminal cover, long | TCE24 3P, 4P | |
| Phase barrier | PHS24 | |
| Connection terminals | MC24 W2 | |

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

Technical Data Ex9M4SD AC

AC Moulded Case Switch Disconnectors up to 630 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 12 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 14 kA / 690 V |
| Rated short-time withstand current I_{cw} | 8 kA / 1 s 8 kA / 3 s |
| Rated current | 630 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 10 000 operation cycles |
| Electrical service life | 1 000 operation cycles / 690 V AC |
| Total disconnection time at short circuit | < 2 ms |
| Line voltage connection | arbitrary above or below |

Power dissipation characteristics

| | |
|-------------------------------|--------------|
| I_n | 630 A |
| Pole resistance (m Ω) | 0.08 |
| Pole power dissipation (W) | 31.8 |

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 | 9.5 kg / 12.5 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

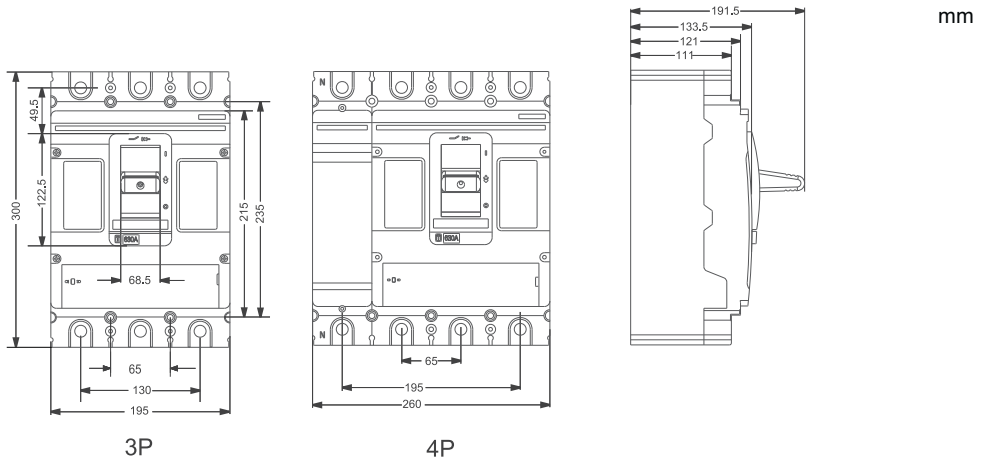
Derating coefficient of technical parameters based on altitude

| Altitude | $\leq 2\ 000$ 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Technical Data Ex9M4SD AC

AC Moulded Case Switch Disconnectors up to 630 A

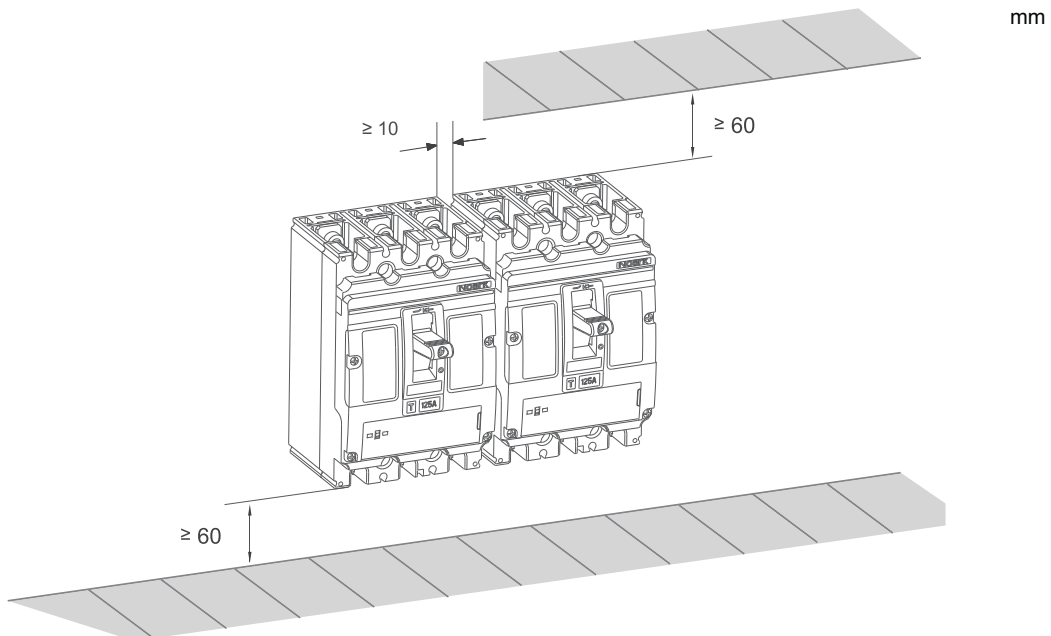
Dimensions



Wiring diagram



Installation space



Technical Data Ex9M5SD AC

AC Moulded Case Switch Disconnectors up to 800 A

General parameters

Suitable for commercial as well as industrial applications

Internal accessories

| | | |
|------------------------|-------|--|
| Auxiliary contact unit | AX21M | |
| Shunt trip releases | SHT24 | |
| Undervoltage releases | UVT24 | |

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

External accessories

| | | |
|------------------------|--------------|--|
| Direct rotary handle | RHD24 | |
| Extended rotary handle | ERH24 | |
| Remote motor operators | MOD24 | |
| Terminal cover, short | TCV24 3P, 4P | |
| Terminal cover, long | TCE24 3P, 4P | |
| Phase barrier | PHS24 | |
| Connection terminals | MC24 W2 | |

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

Technical Data Ex9M5SD AC

AC Moulded Case Switch Disconnectors up to 800 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 12 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 17 kA / 690 V |
| Rated short-time withstand current I_{cw} | 10 kA / 1 s 10 kA / 3 s |
| Rated current | 800 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 10 000 operation cycles |
| Electrical service life | 1 000 operation cycles / 690 V AC |
| Total disconnection time at short circuit | < 2 ms |
| Line voltage connection | arbitrary above or below |

Power dissipation characteristics

| I_n | 800 A |
|----------------------------|-------|
| Pole resistance (mΩ) | 0.08 |
| Pole power dissipation (W) | 51.2 |

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 | 9.5 kg / 12.5 kg |
| Mounting position | vertical, can be rotated by 90° in each axis |

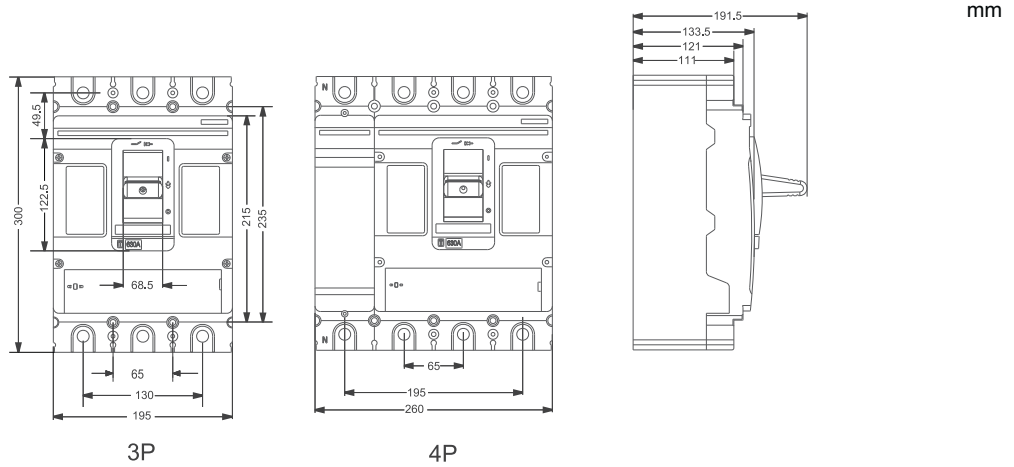
Derating coefficient of technical parameters based on altitude

| 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 12 kV | 10 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=12$ kV) | 2550 V AC | 2370 V AC | 2200 V AC | 2050 V AC |

Technical Data Ex9M5SD AC

AC Moulded Case Switch Disconnectors up to 800 A

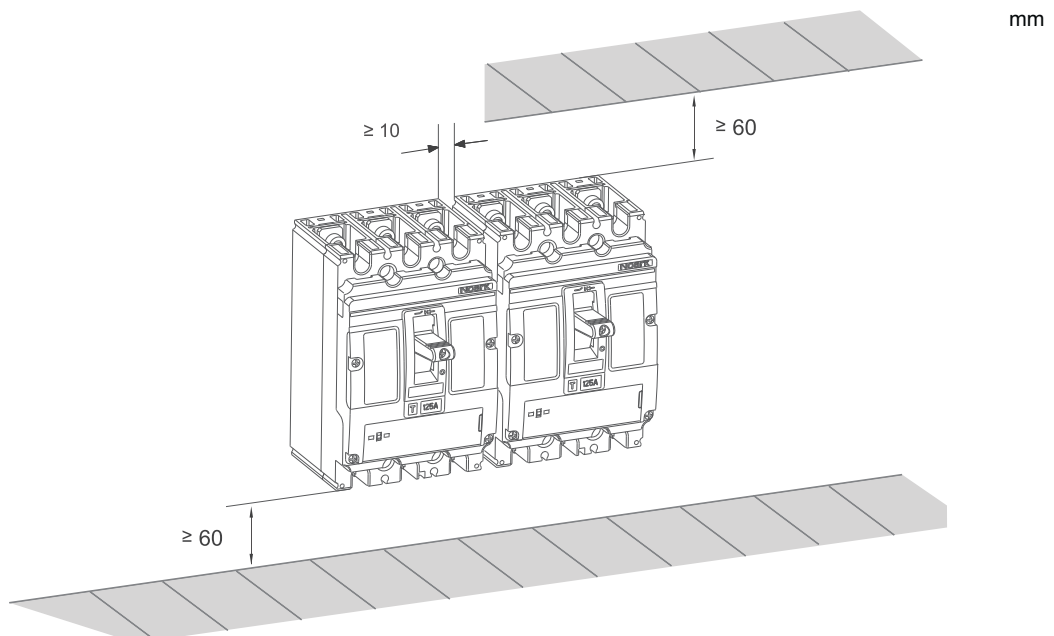
Dimensions



Wiring diagram



Installation space



Technical Data Ex9M6SD AC

AC Moulded Case Switch Disconnectors up to 1 600 A

General parameters

Suitable for household as well as industrial applications

Internal accessories

| | | |
|------------------------|-------|--|
| Auxiliary contact unit | AX21M | |
| Shunt trip releases | SHT26 | |
| Undervoltage releases | UVT26 | |

Max. number of installed internal accessories is 2 pcs of AX21 and 1 pc of a release (SHT26 or UVT26)

External accessories

| | | |
|------------------------|-------|--|
| Extended handle | LHD26 | |
| Extended rotary handle | ERH26 | |
| Front connection plate | JP26 | |

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

Technical Data Ex9M6SD AC

AC Moulded Case Switch Disconnectors up to 1 600 A

Electrical parameters

| | |
|---|-----------------------------------|
| Tested according to | IEC/EN 60947-3 |
| Rated op. voltage U_e | 690 V AC |
| Rated insulation voltage U_i | 1 000 V |
| Rated impulse withstand voltage U_{imp} | 12 kV |
| Rated frequency | 50/60 Hz |
| Rated short-time making capacity I_{cm} | 40 kA / 690 V |
| Rated short-time withstand current I_{cw} | 20 kA / 1 s 20 kA / 3 s |
| Rated current | 800 / 1 000 / 1 250 / 1 600 A |
| Utilization category | AC-22A, AC-23A |
| Mechanical service life | 6 000 operation cycles |
| Electrical service life | 1 000 operation cycles / 690 V AC |
| Total disconnection time at short circuit | < 2 ms |
| Line voltage connection | arbitrary above or below |

Power dissipation characteristics

| I_n | 800 A | 1 000 A | 1 250 A | 1 600 A |
|----------------------------|-------|---------|---------|---------|
| Pole resistance (mΩ) | 0.08 | 0.08 | 0.04 | 0.04 |
| Pole power dissipation (W) | 51.2 | 80.0 | 62.5 | 102.4 |

Mechanical parameters

| | |
|-------------------------------|--|
| Device width 3P / 4P | 210 mm / 280 mm |
| Device height | 286 mm |
| Device depth | 191 mm |
| Mounting | onto panel |
| Degree of protection | IP40, IP20 terminals |
| Terminals | M10 screws |
| Busbar thickness | ≤ 10 mm |
| Busbar width | ≤ 50 mm |
| Cable lug width | ≤ 50 mm |
| Fastening torque of terminals | 25 — 30 Nm |
| Ambient temperature | -40 — +70 °C |
| Relative humidity | ≤ 50 % at 40 °C, ≤ 90 % monthly average |
| Pollution degree | 3 |
| Weight 3P / 4P | 13 / 17 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 | 690 V AC | 550 V AC | 480 V AC | 420 V AC |
| Rated insulation voltage U_i | 1000 V AC | 930 V AC | 870 V AC | 800 V AC |
| Rated impulse withstand voltage U_{imp} | 8 kV | 8 kV | 8 kV | 8 kV |
| Dielectric properties ($U_{imp}=8$ kV) | 2200 V AC | 2050 V AC | 1900 V AC | 1770 V AC |

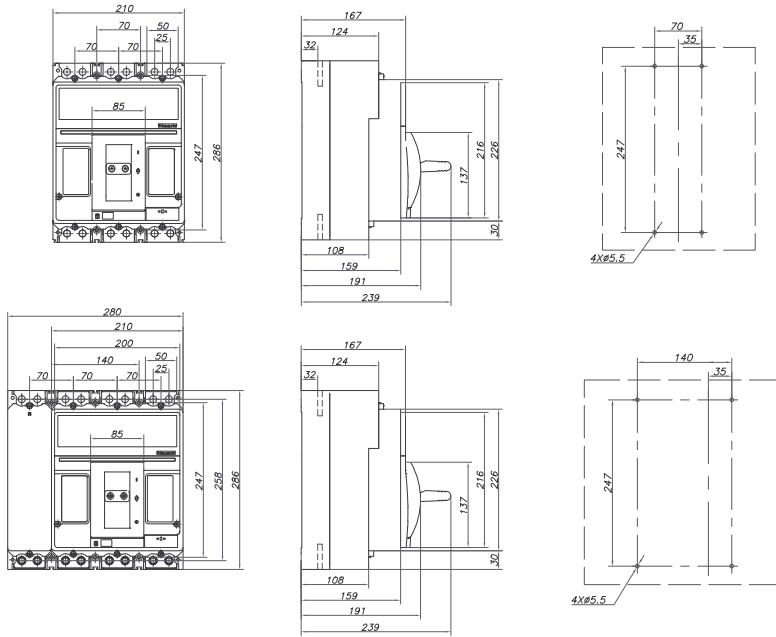
Technical Data Ex9M6SD AC

AC Moulded Case Switch Disconnectors up to 1 600 A

Dimensions

mm

3P



4P

Wiring diagram

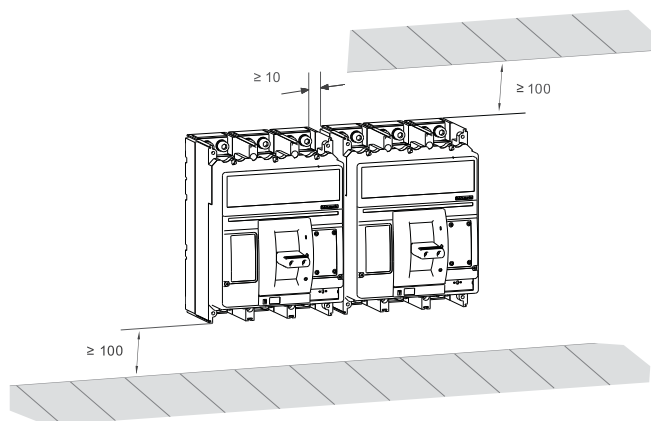


3P

4P

Installation space

mm



Coordination table

Coordination table for cascade protection (220/230/240 VAC)

| Up-stream | Ex9M1 | | | | | Ex9M2 | | | | | Ex9M3 | | | | | Ex9M4 | | | | | Ex9M5 | | | | |
|----------------------------|----------------------------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|
| | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P |
| Breaking capacity (kA rms) | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 |
| Down-stream | Breaking capacity (kA rms) | | | | | | | | | | | | | | | | | | | | | | | | |
| Ex9BN | 25 | 30 | 40 | 60 | 60 | 25 | 30 | 40 | 60 | 60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ex9BH | 30 | 40 | 50 | 65 | 65 | 30 | 40 | 50 | 65 | 65 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ex9M1S | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 |
| Ex9M1N | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M1Q | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M1H | | | | | 150 | | | | | 150 | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M2S | | | | | | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 |
| Ex9M2N | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M2Q | | | | | | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M2H | | | | | | | | | | 150 | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M3S | | | | | | | | | | | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 |
| Ex9M3N | | | | | | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M3Q | | | | | | | | | | | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M3H | | | | | | | | | | | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M4S | | | | | | | | | | | | | | | | | 50 | 60 | 80 | 100 | | 50 | 60 | 80 | 100 |
| Ex9M4N | | | | | | | | | | | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M4Q | | | | | | | | | | | | | | | | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M4H | | | | | | | | | | | | | | | | | | | | 150 | | | | | 150 |
| Ex9M5S | | | | | | | | | | | | | | | | | | | | | | 50 | 60 | 80 | 100 |
| Ex9M5N | | | | | | | | | | | | | | | | | | | | | | | 70 | 90 | 120 |
| Ex9M5Q | | | | | | | | | | | | | | | | | | | | | | | | 90 | 140 |
| Ex9M5H | | | | | | | | | | | | | | | | | | | | | | | | | 150 |

Coordination table

Coordination table for cascade protection (380/400/415 VAC)

| Up-stream | Ex9M1 | | | | | Ex9M2 | | | | | Ex9M3 | | | | | Ex9M4 | | | | | Ex9M5 | | | | |
|----------------------------|----------------------------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|-------|----|----|-----|-----|
| | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P | S | N | Q | H | P |
| Breaking capacity (kA rms) | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 |
| Down-stream | Breaking capacity (kA rms) | | | | | | | | | | | | | | | | | | | | | | | | |
| Ex9BN | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ex9BH | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ex9M1S | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 |
| Ex9M1N | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M1Q | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M1H | | | | 150 | | | | | | 150 | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M2S | | | | | | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 |
| Ex9M2N | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M2Q | | | | | | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M2H | | | | | | | | | | 150 | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M3S | | | | | | | | | | | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 |
| Ex9M3N | | | | | | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M3Q | | | | | | | | | | | | | | 90 | 140 | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M3H | | | | | | | | | | | | | | | 150 | | | | | 150 | | | | | 150 |
| Ex9M4S | | | | | | | | | | | | | | | | | 50 | 50 | 80 | 100 | | 50 | 50 | 80 | 100 |
| Ex9M4N | | | | | | | | | | | | | | | | | | 70 | 90 | 120 | | | 70 | 90 | 120 |
| Ex9M4Q | | | | | | | | | | | | | | | | | | | 90 | 140 | | | | 90 | 140 |
| Ex9M4H | | | | | | | | | | | | | | | | | | | | 150 | | | | | 150 |
| Ex9M5S | | | | | | | | | | | | | | | | | | | | | | 50 | 50 | 80 | 100 |
| Ex9M5N | | | | | | | | | | | | | | | | | | | | | | | 70 | 90 | 120 |
| Ex9M5Q | | | | | | | | | | | | | | | | | | | | | | | | 90 | 140 |
| Ex9M5H | | | | | | | | | | | | | | | | | | | | | | | | | 150 |

Selectivity protection

Selectivity protection table. Number: Maximum fault current to achieve selectivity

| Upstream | | Ex9M1 TM | | | | | | | | | | | Ex9M2 TM | | | | | Ex9M2 SU20S | | | | | | | |
|------------------------------|--------|----------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|----------|------|------|------|------|-------------|------|------|------|------|------|------|------|
| Down-stream | In (A) | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 125 | 160 | 180 | 200 | 225 | 250 | 32 | 63 | 100 | 160 | 250 | | |
| Ex9B B and C Characteristics | ≤10 | 190 | 190 | 300 | 400 | 500 | 500 | 500 | 630 | 800 | 1000 | 1250 | T | T | T | T | T | T | 400 | 500 | 1000 | T | T | | |
| | 16 | | | 300 | 400 | 500 | 500 | 500 | 630 | 800 | 1000 | 1250 | T | T | T | T | T | T | 400 | 500 | 1000 | T | T | | |
| | 20 | | | | | 500 | 500 | 500 | 630 | 800 | 1000 | 1250 | T | T | T | T | T | T | | 500 | 1000 | T | T | | |
| | 25 | | | | | | 500 | 500 | 630 | 800 | 1000 | 1250 | T | T | T | T | T | T | | 500 | 1000 | T | T | | |
| | 32 | | | | | | | 500 | 630 | 800 | 1000 | 1250 | 2000 | 5000 | T | T | T | T | | 500 | 1000 | T | T | | |
| | 40 | | | | | | | | 630 | 800 | 1000 | 1250 | 2000 | 5000 | T | T | T | T | | | 1000 | T | T | | |
| | 50 | | | | | | | | | 800 | 1000 | 1250 | 2000 | 5000 | T | T | T | T | | | 1000 | T | T | | |
| | 63 | | | | | | | | | | 1000 | 1250 | 2000 | 5000 | T | T | T | T | | | 1000 | T | T | | |
| Ex9M1 TM | 16 | | | | | 400 | 500 | 500 | 630 | 800 | 1000 | 1250 | 1000 | 2500 | 2500 | 2500 | 2500 | 2800 | | 500 | 1000 | 2500 | 2800 | | |
| | 20 | | | | | | 500 | 500 | 630 | 800 | 1000 | 1250 | 1000 | 2500 | 2500 | 2500 | 2500 | 2800 | | 500 | 1000 | 2500 | 2800 | | |
| | 25 | | | | | | | 500 | 630 | 800 | 1000 | 1250 | 1000 | 2500 | 2500 | 2500 | 2500 | 2800 | | 500 | 1000 | 2500 | 2800 | | |
| | 32 | | | | | | | | 630 | 800 | 1000 | 1250 | 1000 | 2500 | 2500 | 2500 | 2500 | 2800 | | | 1000 | 2500 | 2800 | | |
| | 40 | | | | | | | | | 800 | 1000 | 1250 | 1000 | 2000 | 2000 | 2500 | 2500 | 2800 | | | 1000 | 2500 | 2800 | | |
| | 50 | | | | | | | | | | 1000 | 1250 | 1000 | 2000 | 2000 | 2500 | 2500 | 2800 | | | 1000 | 2500 | 2800 | | |
| | 63 | | | | | | | | | | | 1250 | 1000 | 2000 | 2000 | 2500 | 2500 | 2800 | | | | 2500 | 2800 | | |
| | 80 | | | | | | | | | | | | | 2000 | 2000 | 2500 | 2500 | 2800 | | | | 2500 | 2800 | | |
| | 100 | | | | | | | | | | | | | | | | 2500 | 2500 | 2800 | | | | | 2800 | |
| | 125 | | | | | | | | | | | | | | | | | | 2500 | 2800 | | | | | 2800 |
| 160 | | | | | | | | | | | | | | | | | | | | 2500 | 2800 | | | | 2800 |
| Ex9M2 TM | 125 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 160 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 180 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 200 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 225 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ex9M2 SU20S/L | 32 | | | | | | | | | | | | | | | | | | | | 1000 | 2000 | 2800 | | |
| | 63 | | | | | | | | | | | | | | | | | | | | | 2000 | 2800 | | |
| | 100 | | | | | | | | | | | | | | | | | | | | | | 2800 | | |
| | 160 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 250 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ex9M3 | 250 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 315 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 350 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 500 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ex9M3 SU20S/L | 250 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 400 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 630 | | | | | | | | | | | | | | | | | | | | | | | | |

