

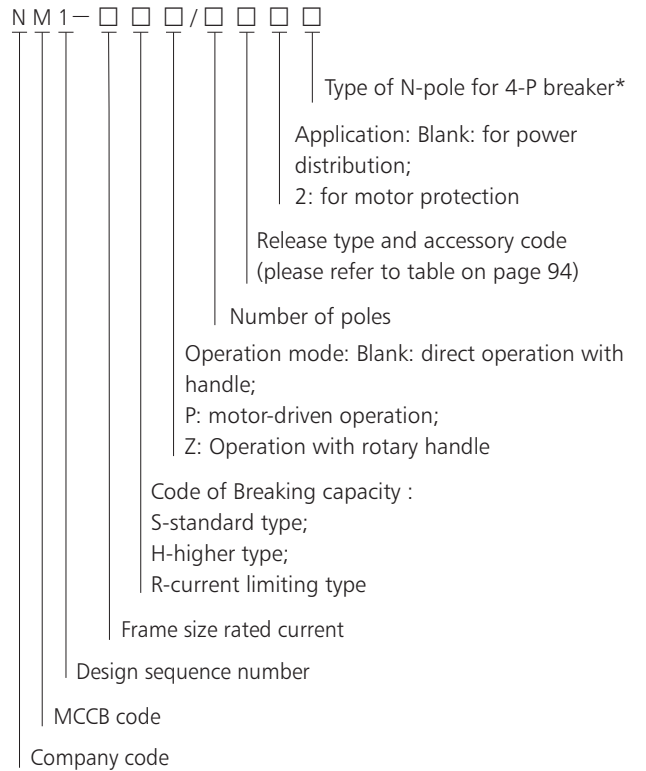


NM1 Moulded Case Circuit Breaker

1. General

- 1.1 Certificates: KEMA, UKrSEPRO, EAC, RCC, EK;
- 1.2 Electric ratings: AC 690V,50/60HZ, 10~1250A;
- 1.3 Mounting mode: Vertical and horizontal;
- 1.4 Standard: IEC/EN60947-2.

2. Type designation



Note *: There is types of N-pole for 4P breaker
 B: Without current release components, N-Pole makes with the other three poles(N-pole first makes then breaks);

3. Classification

According to breaking capacity of breaker:

Standard type (S)



Higher type (H)



Current-limiting type (R)



According to wiring mode:

Front connection



According to operation mode:

Direct operation with handle



Operation with rotary handle



Motor-driven operation



According to number of poles:

2P



3P



4P



4. Operating conditions

- 4.1 Temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$; the average value within 24h shall not exceed $+35^{\circ}\text{C}$. (please refer to coefficients on P79 for temperature compensation correction); for the circuit breaker with thermo-magnetic release, $+40^{\circ}\text{C}$ is set to be the standard temperature for ratings. For temperature not between $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, please contact us for temperature compensation correction.
- 4.2 Altitude: not exceed 2000m (Please contact with us for reduction coefficient if altitude at the mounted site beyond 2000m).

4.3 Pollution grade: Grade 3

4.4 Air conditions

At mounting site, relative humidity not exceed 50% at the max temperature of $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at $+20^{\circ}\text{C}$, special measures should be taken to occurrence of dews.

Moulded Case Circuit Breakers
NM1



5. Technical data

| Frame size current | 63 | | | | | 125 | | | | | 250 | | | | | 400 | | | 630 | | | 800 | | 1250 | | | | | | | | | | | | |
|---|--|---|--|--|--|--|---|---|---|--|--|--|--|--|---|------------------------------|---|--|--------------------|--|---|---------------|---|---------------------------|--|--|---|---|---|--|--|---|---|--|--|---|
| Electric characteristics as per IEC 60947-2, EN 60947-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated current (A) In 40°C | 10, 16, 20, 25, 30, 32, 40, 50, 60, 63 | | | | | 25, 30, 32, 40, 50, 60, 63, 75, 80, 100, 125 | | | | | 100, 125, 140, 150, 160, 175, 180, 200, 225, 250 | | | | | 225, 250, 300, 315, 350, 400 | | | 400, 450, 500, 630 | | | 630, 700, 800 | | 700, 800, 900, 1000, 1250 | | | | | | | | | | | | |
| Rated insulation voltage (V) Ui | 500 | | | | | 800 | | | | | 800 | | | | | 800 | | | 800 | | | 800 | | 800 | | | | | | | | | | | | |
| Rated impulse withstand voltage(kV) Uimp | 6 | | | | | 8 | | | | | 8 | | | | | 8 | | | 8 | | | 8 | | 8 | | | | | | | | | | | | |
| Rated operational voltage (V) Ue AC 50/60Hz | 415 | | | | | 690 | | | | | 690 | | | | | 690 | | | 690 | | | 690 | | 690 | | | | | | | | | | | | |
| Arcing distance (mm) | ≤50 | | | | | ≤50 | | | | | ≤50 | | | | | ≤100 | | | ≤100 | | | ≤100 | | ≤100 | | | | | | | | | | | | |
| Breaking capacity code | S | H | | | | C | S | H | R | | | | | | S | H | R | | | | S | H | R | | | | S | H | R | | | H | R | | | H |



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----|----|----|----|----|-----|----|----|----|----|-----|----|----|----|----|-----|----|----|-----|-----|----|-----|----|-----|----|----|-----|----|----|-----|----|
| Number of poles | 3 | 3 | 4 | 3 | 3 | 2 | 3 | 4 | 3 | 1 | 3 | 2 | 3 | 4 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | |
| Rated ultimate short-circuit breaking capacity AC 220/230/240V | 20 | 42 | 42 | 25 | 42 | 65 | 65 | 65 | 85 | 20 | 42 | 65 | 65 | 65 | 85 | 85 | 50 | 50 | 85 | 100 | 50 | 50 | 85 | 100 | 85 | 85 | 100 | 85 | 85 | 100 | 85 |
| Icu (kA, rms) AC 380/400/415V | 15 | 35 | 35 | 20 | 25 | 50 | 50 | 50 | 65 | - | 25 | 50 | 50 | 50 | 65 | 65 | 35 | 35 | 50 | 70 | 35 | 35 | 50 | 70 | 60 | 60 | 70 | 70 | 65 | 65 | |
| Test sequence:O-t-CO AC 660/690V | - | - | - | 3 | 3 | - | 8 | 8 | 10 | - | 5 | - | 8 | 8 | - | 10 | 10 | 10 | 12 | 15 | 12 | 12 | 15 | 15 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Rated service short-circuit breaking capacity Ics (%Icu) | 50% | | | | | 50% | | | | | 50% | | | | | 50% | | | 50% | | | 50% | | 50% | | | | | | | |
| Test sequence:O-t-CO-t-CO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Isolation function | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Utilization class | A | | | | | A | | | | | A | | | | | A | | | A | | | A | | A | | | | | | | |
| Front connection | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Rear connection | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Plug in type | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Shunt release | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Under-voltage release | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Auxiliary contact | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |
| Alarm contact | ■ | | | | | ■ | | | | | ■ | | | | | ■ | | | ■ | | | ■ | | ■ | | | | | | | |

Note:
The symbols O-t-Co, O-t-Co-t-Co are used for defining the sequence of operations.
O: breaking operation; t: the time interval between two successive short-circuit operations;
CO: a making operation followed, after the appropriate opening time, by a breaking operation.

6. Release

Inverse time breaking action property of the over current releasing of the breaker (for power distribution) at the status that all poles are electrified simultaneously

| No. | Test current | I/In | Conventional time | Initial status |
|-----|-------------------------------|------|---------------------------|------------------------|
| 1 | Conventional non-trip current | 1.05 | 2h(In>63A), 1h(In≤63A) | Cold status |
| 2 | Conventional trip current | 1.30 | 2h(In>63A), 1h(In≤63A) | Right after test no. 1 |

Inverse time-delay breaking operation property of the over current tripping of the breaker(for motor protection) at the status that all poles are electrified simultaneously(conforms to IEC60947-3)

| Serial No. | Setting current | Conventional time | Start-up status | Remark |
|------------|-----------------|-------------------|---------------------------|------------|
| 1 | 1.0In | >2h | Cold status | |
| 2 | 1.2In | ≤2h | Right after test number 1 | |
| 3 | 1.5In | ≤4min | Cold status | 10≤In≤250 |
| | | ≤8min | Cold status | 250≤In≤630 |
| 4 | 7.2In | 4s≤t≤10s | Cold status | 10≤In≤250 |
| | | 6s≤t≤20s | Cold status | 250≤In≤630 |

7. Product overview

NM1 Moulded Case Circuit Breaker

- 1 MCCB (fixed type)
- 2 Under-voltage release
- 3 Shunt release
- 4 Alarm contact
- 5 Auxiliary contact
- 6 Motor-driven operation mechanism
- 7 Extended manual operation handle
- 8 Mechanical interlock
- 9 Cage clamp terminal
- 10 Terminal cover
- 11 Front connection plate

