# 6 Moulded Case Circuit Breakers for motor protection

| Frame size (A) | 30 | 30 | 50 | 50 | 100 | 225 | | |
|---|---|---|---|---|---|---|---|---|
| Type | **E30-NM** | **S30-NM** | **E50-NM** | **S50-NM** | **E100-NM** | **S250-SM** | | |
| Number of poles | 3 | 3 | 3 | 3 | 3 | 3 | | |
| **■Ratings** | | | | | | | | |
| Motor rated capacity (kW) and breaker rated current (A) | | | | | | | | |
| Calibrated at 40°C | | | | | | | | |
| 45°C | | | | | | | | |

| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 1.4 | 0.2 | 0.4 |
| 2.6 | 0.4 | — |
| 4 | 0.75 | 1.5 |
| 8 | 1.5 | 3.7 |
| 10 | 2.2 | — |
| 16 | 3.7 | 7.5 |
| 24 | 5.5 | 11 |
| 32 | 7.5 | 15 |
| (40℃ only) | | |

| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 0.7 | — | 0.2 |
| 1.4 | 0.2 | 0.4 |
| 2 | — | 0.75 |
| 2.6 | 0.4 | — |
| 4 | 0.75 | 1.5 |
| 5 | — | 2.2 |
| 8 | 1.5 | 3.7 |
| 10 | 2.2 | — |
| 12 | — | 5.5 |
| 16 | 3.7 | 7.5 |
| 24 | 5.5 | 11 |
| 32 | 7.5 | 15 |
| (40℃ only) | | |

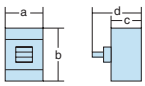
| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 24 | 5.5 | 11 |
| 32 | 7.5 | 15 |
| 40 | — | 18.5 |
| 45 | 11 | 22 |
| (40℃ only) | | |

| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 10 | 2.2 | — |
| 12 | — | 5.5 |
| 16 | 3.7 | 7.5 |
| 24 | 5.5 | 11 |
| 32 | 7.5 | 15 |
| 40 | — | 18.5 |
| 45 | 11 | 22 |
| (40℃ only) | | |

| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 60 | 15 | 30 |
| 75 | 18.5 | 37 |
| 90 | 22 | 45 |
| (40℃ only) | | |

| (A) | (kW) 200/220V | (kW) 400/440V |
|---|---|---|
| 125 | 30 | — |
| 150 | 37 | 75 |
| 175 | 45 | 90 |
| 225 | 55 | 110 |

Note: Select an appropriate one depending on the total load current of the motor operator.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Rated insulation voltage 〔$U_i$〕 V | | 500 | 690 | 690 | 690 | 690 | 690 | | |
| Rated impulse withstand voltage 〔$U_{imp}$〕 kV | | 6 | 6 | 6 | 6 | 6 | 8 | | |
| **■Rated breaking capacity, kA** | | | | | | | | | |
| JIS C 8201-2-1 Ann.1 Ann.2 ㊺㊻ | AC 440V | 1.5/1 | 2.5/2 | 2.5/2 | 10/5 | 10/5 | 30/15 | | |
| IEC 60947-2 | 415V | 1.5/1 | 2.5/2 | 2.5/2 | 10/5 | 10/5 | 40/20 | | |
| $I_{cu}/I_{cs}$(sym) | 380V | 1.5/1 | 2.5/2 | 2.5/2 | 10/5 | 10/5 | 40/20 | | |
| | 240V | 2.5/2 ㊾ | 5/3 ㊾ | 5/3 ㊾ | 25/13 ㊾ | 25/13 ㊾ | 85/43 | | |
| **■External dimensions, mm** | | | | | | | | | |
|  | a | 75 | 75 | 75 | 75 | 75 | 105 | | |
| | b | 100 | 100 | 100 | 100 | 100 | 165 | | |
| | c | 60 | 60 | 60 | 60 | 60 | 68 | | |
| | d | 84 | 84 | 84 | 84 | 84 | 95 | | |
| Weight (◉ marked standard type) kg | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | | |
| **■Connections and Mountings** | | | | | | | | | |
| Front-connected (FC) | Terminal screws | ◉ ㊺ | ◉ ㊺ | ◉ ㊺ | ◉ ㊺ | ◉ | ◉ | | |
| | With extension bars | ○ ㊸ | ○ ㊸ | ○ ㊸ | ○ ㊸ | ○ ㊸ | ○ ㊸ | | |
| Rear-connected (RC) | Flat bar studs | ○ | ○ | ○ | ○ | ○ | ○ | | |
| Plug-in (PM) For switchboards | High-performance (PMB) | — | — | — | — | — | — | | |
| | Standard (PMC) | — | — | — | — | — | — | | |
| For distribution boards | (PMC) | — | — | — | — | — | — | | |
| | (PMD) | — | — | — | — | — | — | | |
| Flush-mounted (FP) | With flat bar studs | ○ | ○ | ○ | ○ | ○ | ○ | | |
| Draw-out type (DR) | | — | — | — | — | — | — | | |
| TemPlug70 (PG) | | — | — | — | — | — | ○ | | |
| DIN rail mount | | ◉ | ◉ | ◉ | ◉ | ◉ | — | | |
| **■Accessories (optional)** | **Symbol** | | | | | | | | |
| Internally mounted: Auxiliary switch | A X | ● | ● | ● | ● | ● | ● | | |
| Internally mounted: Alarm switch | A L | ● | ● | ● | ● | ● | ● | | |
| Internally mounted: Shunt trips | S H | ● | ● | ● | ● | ● | ● | | |
| Internally mounted: Undervoltage trips | U V | ● ㊽ | ● ㊽ | ● ㊽ | ● ㊽ | ● ㊽ | ● | | |
| Externally mounted: Motor operator | M C | — | — | — | — | — | ● | | |
| External operating handle: Breaker-mounted | H B | △ | △ | △ | △ | △ | ● | | |
| External operating handle: Door-mounted (variable depth) | H P | △ | △ | △ | △ | △ | ● | | |
| Toggle extension | H A | — | — | — | — | — | — | | |
| Mechanical interlock: Slide type | M S | ● | ● | ● | ● | ● | ● | | |
| Mechanical interlock: Rear-connected type | M B | — | — | — | — | — | — | | |
| Mechanical interlock: Link type | M L | — | — | — | — | — | ● | | |
| Mechanical interlock: Wire type | M W | — | — | — | — | — | ● | | |
| Toggle holder | H H | — | — | — | — | — | ● | | |
| Toggle lock | H L | ● | ● | ● | ● | ● | ● | | |
| Terminal cover: For front-connected | C F | ● | ● | ● | ● | ● | ● | | |
| Terminal cover: For rear-connected and plug-in | C R | ● ② | ● ② | ● ② | ● ② | ● ② | ● | | |
| Terminal block for lead | T F | ● | ● | ● | ● | ● | ● | | |
| Door flange | D F | — | — | — | — | — | ● | | |
| CE marking | | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Overcurrent trip mechanism | | Hydraulic-magnetic type | Hydraulic-magnetic type | Hydraulic-magnetic type | Hydraulic-magnetic type | Hydraulic-magnetic type | Thermal-magnetic | | |
| Colour of cover | | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Grey Blue | | |
| Trip button (Colour) | | Yes (Red) | Yes (Red) | Yes (Red) | Yes (Red) | Yes (Red) | Yes (Red) | | |
| Suitability for isolation | | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Reverse connection | | Yes ㉒ | Yes | Yes | Yes ㉒ | Yes ㉒ | Yes | | |
| Page of characteristics and outline dimensions | | 7-88 | 7-88 | 7-88 | 7-88 | 7-90 | 7-92 | | |

**Notes:**
◉ : Standard. This configuration used unless otherwise specified. ○ : Optional standard. Specify when ordering.
● : "yes" or "available". — : "no" or "not available". △ : Custom-built product. Please contact us for details.
② : Supplied as standard. ⑪ : Please order the DIN rail adapter separately. See page 6-152. ㊺ : A wire clamping terminal is provided.
㊸ : For the extension bars, please place the order separately in parts.
㊽ : It is mounted on the side of the circuit breaker. In the case of Flush-mounted type (FP), it cannot be installed.
㊾ : This is the value for 230V AC. ㉒ : There are some limitations. See page 5-23 for details.