

Circuit breakers and switch-disconnectors

NW08 to NW63



Common characteristics

| | | |
|---|-------------|-------------------------|
| Number of poles | | 3/4 |
| Rated insulation voltage (V) | Ui | 1000/1250 |
| Impulse withstand voltage (kV) | Uimp | 12 |
| Rated operational voltage (V AC 50/60 Hz) | Ue | 690/1150 |
| Suitability for isolation | IEC 60947-2 | |
| Degree of pollution | IEC 60664-1 | 4 (1000 V) / 3 (1250 V) |

Basic circuit-breaker

Circuit-breaker as per IEC 60947-2

| | | |
|------------------------|--|---------------------------------|
| Rated current (A) | | at 40 °C / 50 °C ⁽¹⁾ |
| Rating of 4th pole (A) | | |
| Sensor ratings (A) | | |

Type of circuit breaker

| | | |
|---|------------|---|
| Ultimate breaking capacity (kA rms) V AC 50/60 Hz | Icu | 220/415/440 V 525 V 690 V 1150 V |
| Rated service breaking capacity (kA rms) | Ics | % Icu |

| | | |
|---|------------|------------|
| Utilisation category | | |
| Rated short-time withstand current (kA rms) V AC 50/60 Hz | Icw | 1 s 3 s |

| | | |
|---|------------|---|
| Integrated instantaneous protection (kA peak ±10 %) | | |
| Rated making capacity (kA peak) V AC 50/60 Hz | Icm | 220/415/440 V 525 V 690 V 1150 V |

Break time (ms) between tripping order and arc extinction

Closing time (ms)

Circuit-breaker as per NEMA AB1

| | | |
|--------------------------------------|--|--------------------|
| Breaking capacity (kA) V AC 50/60 Hz | | 240/480 V 600 V |
|--------------------------------------|--|--------------------|

Unprotected circuit-breaker

Tripping by shunt trip as per IEC 60947-2

Type of circuit breaker

| | | |
|---|------------|-------------|
| Ultimate breaking capacity (kA rms) V AC 50/60 Hz | Icu | 220...690 V |
| Rated service breaking capacity (kA rms) | Ics | % Icu |
| Rated short-time withstand current (kA rms) | Icw | 1 s 3 s |

Overload and short-circuit protection
External protection relay: short-circuit protection, maximum delay: 350 ms ⁽⁴⁾

| | | |
|---|------------|-------------|
| Rated making capacity (kA peak) V AC 50/60 Hz | Icm | 220...690 V |
|---|------------|-------------|

Switch-disconnector as per IEC 60947-3 and Annex A

Type of switch-disconnector

| | | |
|--|------------|-----------------------|
| Rated making capacity (kA peak) AC23A/AC3 category V AC 50/60 Hz | Icm | 220...690 V 1150 V |
| Rated short-time withstand current (kA rms) AC23A/AC3 category V AC 50/60 Hz | Icw | 1 s 3 s |

Earthing switch

| | | |
|--------------------------------------|------------|------------------------|
| Latching capacity (kA peak) | | 135 |
| Rating short time withstand (kA rms) | Icw | 1 s 60 Hz 3 s 50 Hz |

Mechanical and electrical durability as per IEC 60947-2/3 at In/Ie

| | | | |
|-------------------|------------|---------------------|--|
| Service life | Mechanical | with maintenance | |
| C/O cycles x 1000 | | without maintenance | |

Type of circuit breaker

| | | | |
|-------------------|------------|---------------------|---|
| Rated current | | In (A) | |
| C/O cycles x 1000 | Electrical | without maintenance | 440 V ⁽⁵⁾ 690 V 1150 V |
| IEC 60947-2 | | | |

Type of circuit breaker or switch-disconnector

| | | | |
|---------------------------|------------|---------------------|-------------------------------|
| Rated operational current | | Ie (A) | AC23A |
| C/O cycles x 1000 | Electrical | without maintenance | 440 V ⁽⁵⁾ 690 V |
| IEC 60947-3 | | | |

Type of circuit breaker or switch-disconnector

| | | | |
|-----------------------------------|------------|---------------------|---|
| Rated operational current | | Ie (A) | AC3 ⁽⁶⁾ |
| Motor power | | | 380/415 V (kW) 440 V ⁽⁵⁾ (kW) 690 V (kW) |
| C/O cycles x 1000 | Electrical | without maintenance | 440/690 V ⁽⁵⁾ |
| IEC 60947-3 Annex M/IEC 60947-4-1 | | | |

(1) 50 °C: rear vertical connected. Refer to temperature derating tables for other connection types.

(2) See the current-limiting curves in the "additional characteristics" section.

(3) Equipped with a trip unit with a making current of 90 kA peak.

(4) External protection must comply with permissible thermal constraints of the circuit breaker (please consult us). No fault-trip indication by the SDE or the reset button.

(5) Available for 480 V NEMA.

(6) Suitable for motor control (direct-on-line starting).

Sensor selection

| | | | | | | | | | | | | | |
|-------------------------|--------------------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| Sensor rating (A) | 250 ⁽¹⁾ | 400 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3200 | 4000 | 5000 | 6300 |
| Ir threshold setting(A) | 100 to 250 | 160 to 400 | 250 to 630 | 320 to 800 | 400 to 1000 | 500 to 1250 | 630 to 1600 | 800 to 2000 | 1000 to 2500 | 1250 to 3200 | 1600 to 4000 | 2000 to 5000 | 2500 to 6300 |

(1) For circuit-breaker NW02, please consult us.

| NW08 | NW10 | NW12 | NW16 | | NW20 | | | | | NW25 | NW32 | NW40 | | NW40b | NW50 | NW63 |
|------------|-------------|-------------|-------------------|-----|--------------|-----|-----|-------------------|-----|--------------|--------------|--------------|-----|--------------|--------------|--------------|
| 800 | 1000 | 1250 | 1600 | | 2000 | | | | | 2500 | 3200 | 4000 | | 4000 | 5000 | 6300 |
| 800 | 1000 | 1250 | 1600 | | 2000 | | | | | 2500 | 3200 | 4000 | | 4000 | 5000 | 6300 |
| 400 to 800 | 400 to 1000 | 630 to 1250 | 800 to 1600 | | 1000 to 2000 | | | | | 1250 to 2500 | 1600 to 3200 | 2000 to 4000 | | 2000 to 4000 | 2500 to 5000 | 3200 to 6300 |
| N1 | H1 | H2 | L1 ⁽²⁾ | H10 | H1 | H2 | H3 | L1 ⁽²⁾ | H10 | H1 | H2 | H3 | H10 | H1 | H2 | |
| 42 | 65 | 100 | 150 | - | 65 | 100 | 150 | 150 | - | 65 | 100 | 150 | - | 100 | 150 | |
| 42 | 65 | 85 | 130 | - | 65 | 85 | 130 | 130 | - | 65 | 85 | 130 | - | 100 | 130 | |
| 42 | 65 | 85 | 100 | - | 65 | 85 | 100 | 100 | - | 65 | 85 | 100 | - | 100 | 100 | |
| - | - | - | - | 50 | - | - | - | - | 50 | - | - | - | 50 | - | - | |
| 100 % | | | | | 100 % | | | | | 100 % | | | | 100 % | | |
| B | | | | | B | | | | | B | | | | B | | |
| 42 | 65 | 85 | 30 | 50 | 65 | 85 | 65 | 30 | 50 | 65 | 85 | 65 | 50 | 100 | 100 | |
| 22 | 36 | 50 | 30 | 50 | 36 | 75 | 65 | 30 | 50 | 65 | 75 | 65 | 50 | 100 | 100 | |
| - | - | 190 | 80 | - | - | 190 | 150 | 80 | - | - | 190 | 150 | - | - | 270 | |
| 88 | 143 | 220 | 330 | - | 143 | 220 | 330 | 330 | - | 143 | 220 | 330 | - | 220 | 330 | |
| 88 | 143 | 187 | 286 | - | 143 | 187 | 286 | 286 | - | 143 | 187 | 286 | - | 220 | 286 | |
| 88 | 143 | 187 | 220 | - | 143 | 187 | 220 | 220 | - | 143 | 187 | 220 | - | 220 | 220 | |
| - | - | - | - | 105 | - | - | - | - | 105 | - | - | - | 105 | - | - | |
| 25 | 25 | 25 | 10 | 25 | 25 | 25 | 25 | 10 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | |
| < 70 | | | | | < 70 | | | | | < 70 | | | | < 80 | | |
| 42 | 65 | 100 | 150 | - | 65 | 100 | 150 | 150 | - | 65 | 100 | 150 | - | 100 | 150 | |
| 42 | 65 | 85 | 100 | - | 65 | 85 | 100 | 100 | - | 65 | 85 | 100 | - | 100 | 100 | |

| HA | | HF ⁽³⁾ | | HA | | HF ⁽³⁾ | | HA | | HF ⁽³⁾ | | HA | | | | | | | | | |
|----------------|--|-------------------|--|-------|--|-------------------|--|-------|--|-------------------|--|----------------|--|-----|--|-----------------|--|------|--|-----|--|
| 50 | | 85 | | 50 | | 85 | | 55 | | 85 | | 85 | | | | | | | | | |
| 100 % | | | | 100 % | | | | 100 % | | | | 100 % | | | | | | | | | |
| 50 | | 85 | | 50 | | 85 | | 55 | | 85 | | 85 | | | | | | | | | |
| 36 | | 50 | | 36 | | 75 | | 55 | | 75 | | 85 | | | | | | | | | |
| - | | - | | - | | - | | - | | - | | - | | | | | | | | | |
| 105 | | 187 | | 105 | | 187 | | 121 | | 187 | | 187 | | | | | | | | | |
| NW08/NW10/NW12 | | | | NW16 | | | | NW20 | | | | NW25/NW32/NW40 | | | | NW40b/NW50/NW63 | | | | | |
| NA | | HA | | HF | | HA10 | | HA | | HF | | HA10 | | HA | | HF | | HA10 | | HA | |
| 88 | | 105 | | 187 | | - | | 105 | | 187 | | - | | 121 | | 187 | | - | | 187 | |
| - | | - | | - | | 105 | | - | | - | | 105 | | - | | - | | 105 | | - | |
| 42 | | 50 | | 85 | | 50 | | 50 | | 85 | | 50 | | 55 | | 85 | | 50 | | 85 | |
| - | | 36 | | 50 | | 50 | | 36 | | 75 | | 50 | | 55 | | 75 | | 50 | | 85 | |

| 25 | | | | 20 | | | | 10 | | | | | | | | | | | | | |
|--------------------|--|-------------|--|----------------|--|--------------|--|----------------|--|--------------|--|-----------------|--|--------------|--|--------------|--|--------------|--|-----|--|
| 12.5 | | | | 10 | | | | 5 | | | | | | | | | | | | | |
| N1/H1/H2 | | L1 | | H10 | | H1/H2 | | H3 | | L1 | | H10 | | H1/H2 | | H3 | | L1 | | H10 | |
| 800/1000/1250/1600 | | | | 2000 | | | | 2500/3200/4000 | | | | 4000b/5000/6300 | | | | | | | | | |
| 10 | | 3 | | - | | 8 | | 2 | | 3 | | - | | 5 | | 1.25 | | - | | 1.5 | |
| 10 | | 3 | | - | | 6 | | 2 | | 3 | | - | | 2.5 | | 1.25 | | - | | 1.5 | |
| - | | - | | 0.5 | | - | | - | | - | | 0.5 | | - | | - | | 0.5 | | - | |
| H1/H2/HA/HF | | | | H1/H2/H3/HA/HF | | | | H1/H2/H3/HA/HF | | | | H1/H2/HA | | | | | | | | | |
| 800/1000/1250/1600 | | | | 2000 | | | | 2500/3200/4000 | | | | 4000b/5000/6300 | | | | | | | | | |
| 10 | | | | 8 | | | | 5 | | | | 1.5 | | | | | | | | | |
| 10 | | | | 6 | | | | 2.5 | | | | 1.5 | | | | | | | | | |
| H1/H2/HA/HF | | | | H1/H2/H3/HA/HF | | | | H1/H2/H3/HA/HF | | | | H1/H2/HA | | | | | | | | | |
| 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 2500 | | 3200 | | 4000 | | 5000 | | 6300 | | | |
| 335 to 450 | | 450 to 560 | | 560 to 670 | | 670 to 900 | | 900 to 1150 | | 1150 to 1600 | | 1600 to 2000 | | 2000 to 2500 | | 2500 to 3200 | | 3200 to 4000 | | | |
| 400 to 500 | | 500 to 630 | | 630 to 800 | | 800 to 1000 | | 1000 to 1300 | | 1300 to 1600 | | 1600 to 2000 | | 2000 to 2500 | | 2500 to 3200 | | 3200 to 4000 | | | |
| ≤ 800 | | 800 to 1000 | | 1000 to 1250 | | 1250 to 1600 | | 1600 to 2000 | | 2000 to 2500 | | 2500 to 3200 | | 3200 to 4000 | | 4000 to 5000 | | 5000 to 6300 | | | |

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