HNB1



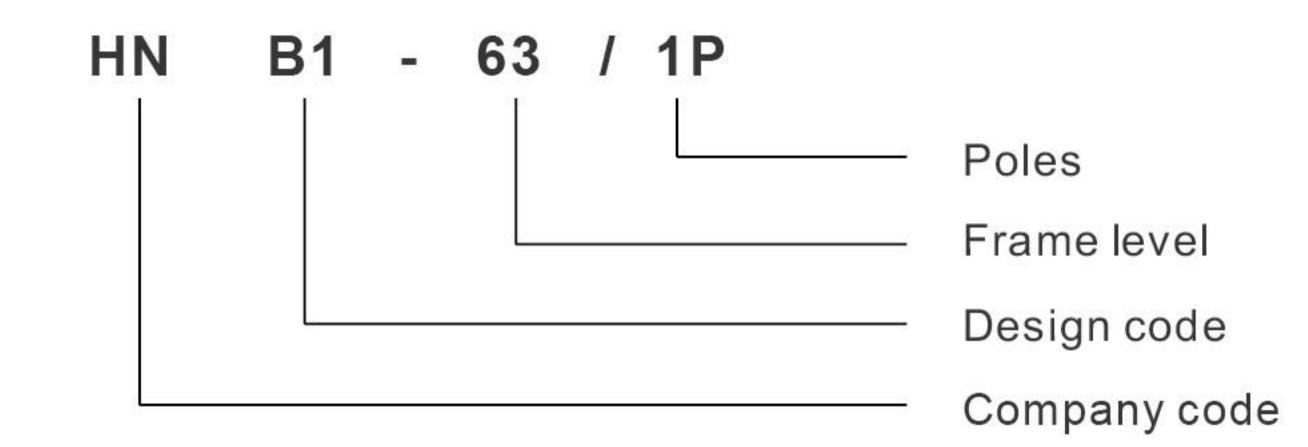


1.Function

HNB1 Series circuit breaker is used in protection lighting or power distribution system from over-load and short-circuit, apply to the circuit of AC 50/60Hz, rated voltage less than 415V. The product adopt high fire resistant and shockproof plastics, quality metal materials, which is neoteric in structure, light in weight, reliable in performance.

Products comply with IEC/EN60898-1.

2.Nomenclature



3.Specifications

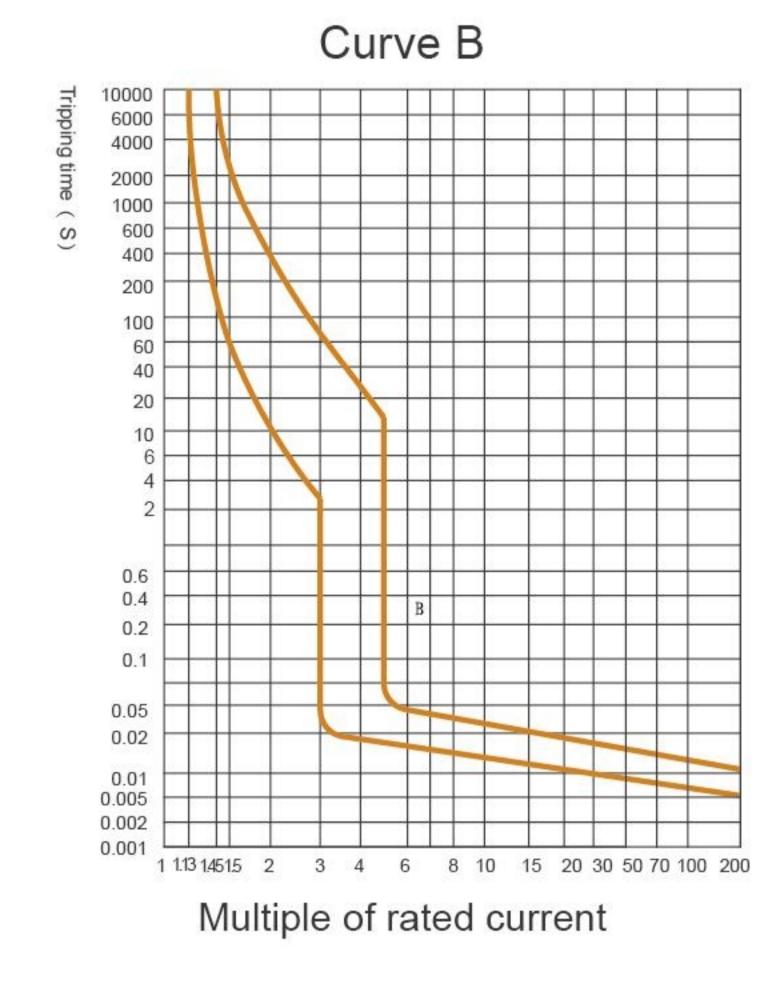
| Туре | Standard | | IEC/EN 60898-1 | | |
|---------------------|--|--------|--|--|--|
| Electrical features | Rated current In | | 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 | | |
| | Poles | Р | 1, 2, 3, 4,1P+N,3P+N | | |
| | Rated voltage Ue | V | 240/415 | | |
| | Insulation voltage Ui | V | 500 | | |
| | Rated frequency | Hz | 50/60 | | |
| | Rated breaking capacity | Α | 6000 | | |
| | Rated impulse withstand voltage(1.2/50)Uimp | V | 6000 | | |
| | Dielectric test voltage at ind. Freq. for 1min | kV | 2 | | |
| | Pollution degree | | 2 | | |
| | Thermo-magnetic release characteristic | | B, C, D | | |
| | Electrical life | t | 4000 | | |
| Mechanical features | Mechanical life | t | 10000 | | |
| | Protection grade | | IP20 | | |
| | Reference temperature for setting of thermal element | °C | 30 | | |
| | Ambient temperature (with daily average≤35°C) | °C | -5~+40 | | |
| | Storage temperature | °C | -25~+70 | | |
| Installation | Terminal connection type | | Cable/Pin-type busbar | | |
| | Tarminal size ton / bettem for soble | mm² | 25 | | |
| | Terminal size top / bottom for cable | AWG | 18/3 | | |
| | Tarminal aiza tan / hattam far buahar | mm² | 25 | | |
| | Terminal size top / bottom for busbar | AWG | 18/3 | | |
| | Tightoning torque | N*m | 2.5 | | |
| | Tightening torque | In-lbs | 22 | | |
| | Mounting | | On DIN rail EN 60715(35mm)by means of fast clip device | | |
| | Connection | | From top and bottom | | |

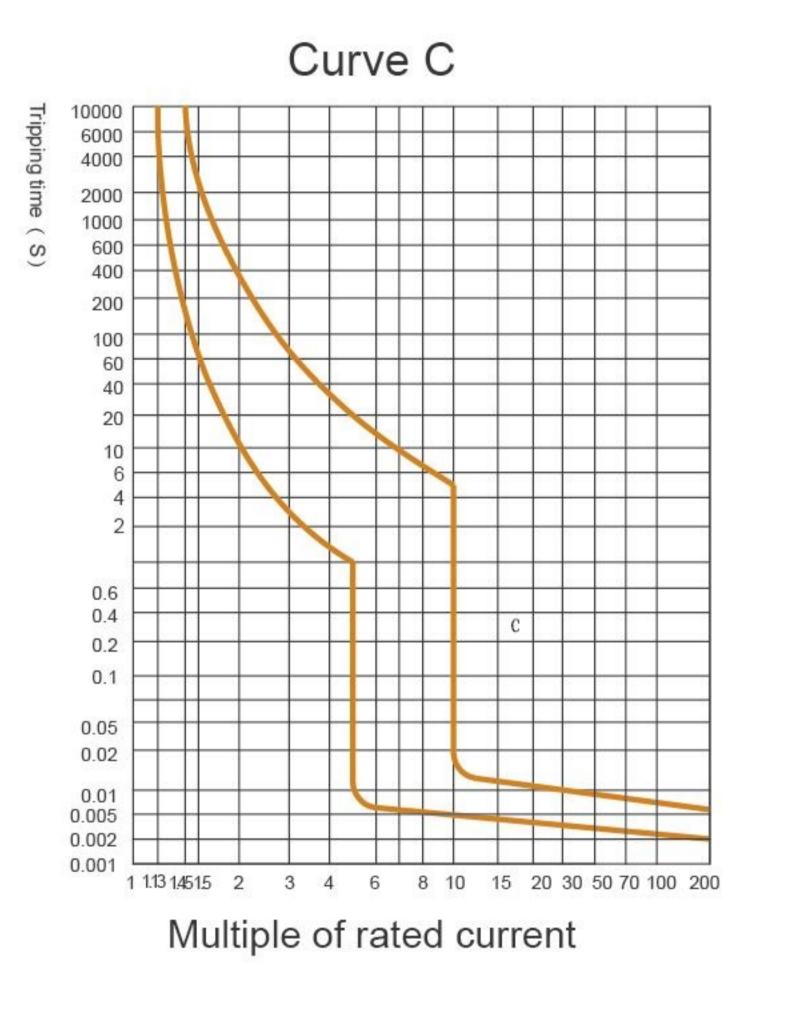


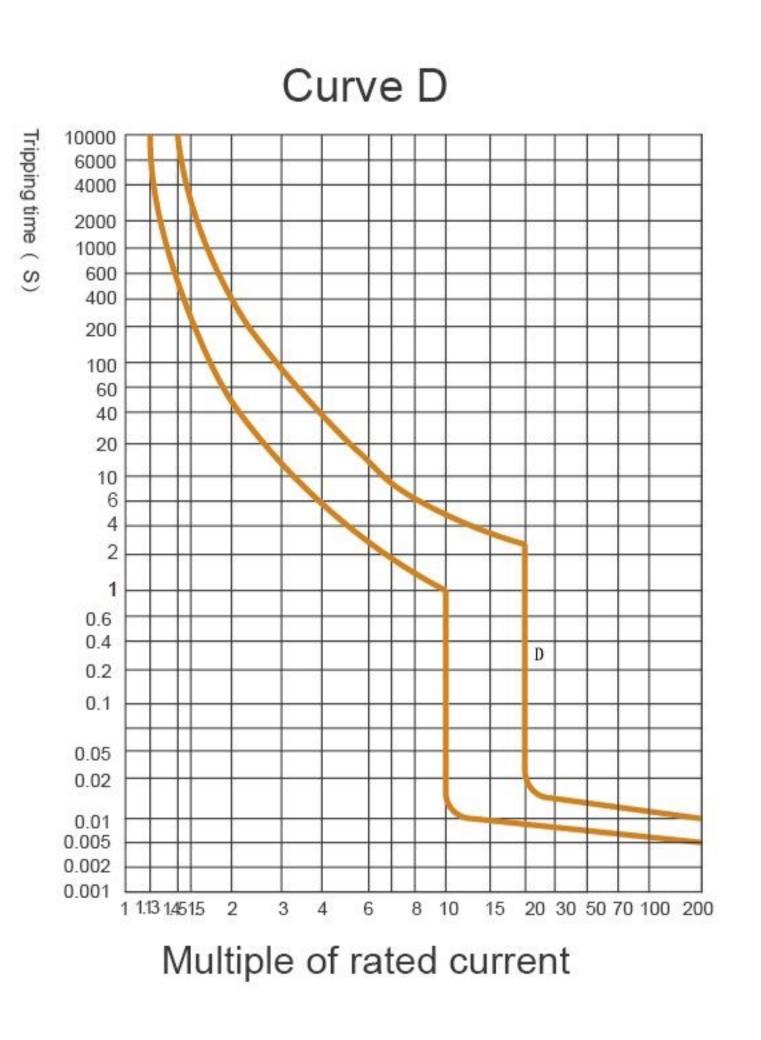
4.Release

| | Item | Tripping Curve | Test current In(A) | Initial Status | Time limit for tripping or non-tripping | Expected result | Remarks | | | | |
|---|------|----------------|-----------------------|-----------------------|--|-------------------------------|---|--|--|--|--|
| | а | B/C/D | 1.13ln | Cold | t≤1h | Non-tripping | | | | | |
| | b | B/C/D | 1.45ln | Following item a test | t<1h | Tripping | Current smoothly rises to specified value within 5s | | | | |
| | С | B/C/D | 2.55ln | Cold | 1s <t<60s(ln≤32a) 1s<t<120s(ln="" tripping="">32A)</t<60s(ln≤32a)> | | | | | | |
| | | В | 3ln | | | | | | | | |
| d | С | 5ln | Cold | t≤0.1s | Non-tripping | Switch on the power supply by | | | | | |
| | D | 10ln | | | | | | | | | |
| | е | В | 5ln | | | | closing the auxiliary switch | | | | |
| | | С | 10ln | Cold | t<0.1s | Tripping | adamial y Stricell | | | | |
| | | D | 20ln | | | | | | | | |

Note: The term"cold "means that the test is carried out at a reference calibration temperature without load before the test.







5.Conductor

| Copper cross-section(mm²) | Rated current In(A) | | | | |
|---------------------------|----------------------------|--|--|--|--|
| 1 | In≤6 | | | | |
| 1.5 | 6 <in≤13< td=""></in≤13<> | | | | |
| 2.5 | 13 <in≤20< td=""></in≤20<> | | | | |
| 4 | 20 <in≤25< td=""></in≤25<> | | | | |
| 6 | 25 <in≤32< td=""></in≤32<> | | | | |
| 10 | 32 <in≤50< td=""></in≤50<> | | | | |
| 16 | 50 <in≤63< td=""></in≤63<> | | | | |
| 25 | 63 <in≤80< td=""></in≤80<> | | | | |

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6. Temperature Derating

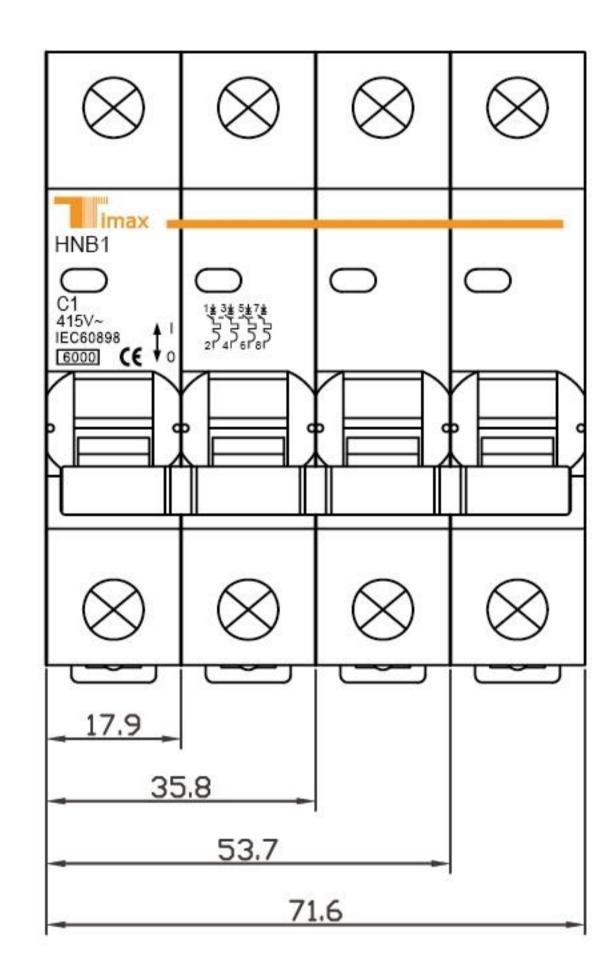
The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed. The reference temperature is 30 °C.

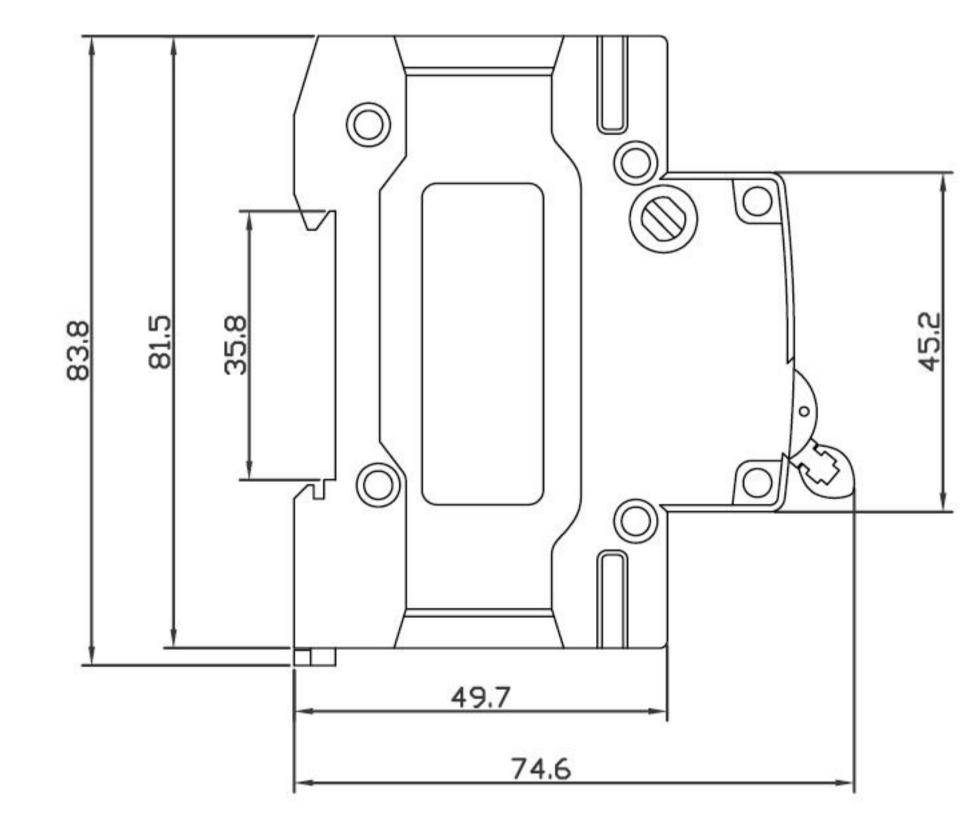
| Ambient temperature Rated current (A) | -35℃ | -30 °C | -20 °C | -10°C | 0°C | 10℃ | 20℃ | 30℃ | 40°C | 50℃ | 60℃ |
|--|-------|--------|--------|-------|-------|-------|-------|-------|-------|------------|-------|
| 2 | 2.60 | 2.52 | 2.46 | 2.38 | 2.28 | 2.20 | 2.08 | 2.00 | 1.92 | 1.86 | 1.76 |
| 4 | 5.20 | 2.04 | 4.92 | 4.76 | 4.56 | 4.40 | 4.16 | 4.00 | 3.84 | 3.76 | 3.52 |
| 6 | 7.80 | 7.56 | 7.38 | 7.14 | 6.84 | 6.60 | 6.24 | 6.00 | 5.76 | 5.64 | 5.28 |
| 10 | 13.20 | 12.70 | 2.50 | 12.00 | 11.50 | 11.10 | 10.60 | 10.00 | 9.60 | 9.30 | 8.90 |
| 16 | 21.12 | 20.48 | 20.00 | 19.20 | 18.40 | 17.76 | 16.96 | 16.00 | 15.36 | 4.88 | 14.24 |
| 20 | 26.40 | 25.60 | 25.00 | 24.00 | 23.00 | 22.20 | 21.20 | 20.00 | 19.20 | 8.60 | 17.80 |
| 25 | 33.00 | 32.00 | 31.25 | 30.00 | 28.75 | 27.75 | 26.50 | 25.00 | 24.00 | 23.25 | 22.25 |
| 32 | 42.56 | 41.28 | 40.00 | 38.72 | 37.12 | 35.52 | 33.92 | 32.00 | 30.72 | 29.76 | 28.16 |
| 40 | 53.20 | 51.20 | 50.00 | 48.00 | 46.40 | 44.80 | 42.40 | 40.00 | 38.40 | 37.20 | 35.60 |
| 50 | 67.00 | 65.50 | 63.00 | 60.50 | 58.00 | 56.00 | 53.00 | 50.00 | 48.00 | 46.50 | 44.00 |
| 63 | 83.79 | 81.90 | 80.01 | 76.86 | 73.71 | 70.56 | 66.78 | 63.00 | 60.48 | 58.90 | 55.44 |

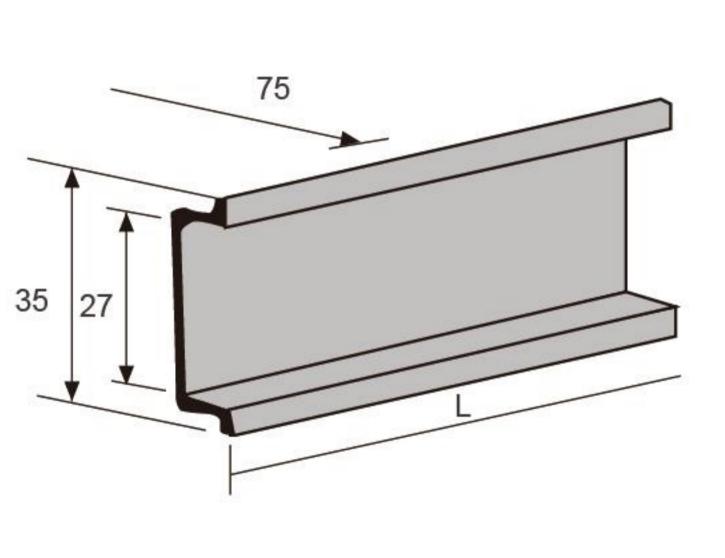
When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating.

You must then assign the rating (already derated if necessary according to ambient temperature), a derating factor of 0.8.

7.Dimensions







8. Order Note

| Ordering sample |
|---|
| To order HNB1-63 miniature circuit breaker, 2 Poles, curve C, rated |
| current 20A, 6kA quantity is 100 pieces, should be marked: |
| HNB1-63/2P C20 6kA, 100PCS. |
| |
| |

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