# 1.0 Application

— NBP-63R series MCCB is mainly used for overload and short circuit protection of power lines with AC 50/60Hz, rated voltage up to 400V and rated current up to 63A. At the same time, it can be used as an isolating switch for equipment maintenance purpose. The circuit breaker is applicable to places with high breaking protection requirements such as JP cabinet, low-voltage switchgear, etc.

— Standard：IEC60947-2



# 2.0 Type designation

N B P - 63 R

- R: Breaking capacity code. R:15kA
- 63: Frame size
- P: Designing sequence
- B: Circuit Breaker
- N: Company code





# 3.0 Technical data

Sheet 1

| | |
|---|---|
| Rated voltage(V) | 230V~（1P）、400V~（2P，3P，4P） |
| Rated current(A) | 1、2、3、4、6、10、16、20、25、32、40、50、63 |
| Poles | 1P，2P，3P，4P |
| Instantaneous tripping current | Ii=8In |
| Rated ultimate short-circuit breaking capacity Icu(A) | 15000 |
| Rated service breaking capacity Ics(A) | 7500 |
| Over current tripping characteristic | See sheet 2, figure 1 |
| Temperature compensation coefficient | See sheet 3 |
| Altitude compensation coefficient | See sheet 4 |
| Mechanical & electrical life(times) | Mechanical life:20000; Electrical life:10000 |
| Impulse withstand voltage | 6kV |
| Terminal size(mm²) | See sheet 5 |
| Tightening torque(N.m) | 2.5~3.5 |
| Overall dimensions | See figure 2,figure 3 |
| Pollution degree | 3 |
| Protection degree | IP20B |

# 3.1 Tripping characteristic ( 30℃ )

Sheet 2

| Serial No. | | Setting current | Start status | Conventional time | Result | Remarks |
|---|---|---|---|---|---|---|
| a | | 1.05In | Cold status | t≤1h(对In≤63A) | Not trip | |
| b | | 1.30In | Immediately test after test 'a' | t < 1h(对In≤63A) | Trip | Current increases steadily within 5s |
| c | | 2In | Cold status | 1s < t < 120s | Trip | |
| d | | 6.4In | Cold status | t≤0.1s | Not trip | Turn on the current by closing the auxiliary switch |
| e | | 9.6Inz | Cold status | t < 0.1s | Trip | Turn on the current by closing the auxiliary switch |



# 3.2 Temperature derating

— When the ambient temperature is greater than or less than the calibrated temperature value, the rated current value of MCB shall be adjusted according to the provided temperature and current carrying capacity correction curve.

Sheet 3

| The reference temperature is 30℃ | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| In (A) | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
| 1 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 0.99 | 0.97 | 0.95 | 0.93 | 0.91 | 0.91 | 0.91 | 0.91 |
| 2 | 2.5 | 2.4 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.00 | 1.90 | 1.90 | 1.90 | 1.80 | 1.80 | 1.80 | 1.80 |
| 3 | 3.8 | 3.7 | 3.6 | 3.5 | 3.5 | 3.4 | 3.4 | 3.3 | 3.3 | 3.2 | 3.2 | 3.0 | 3.0 | 3.00 | 2.90 | 2.80 | 2.80 | 2.80 | 2.70 | 2.70 | 2.70 |
| 4 | 5.1 | 4.9 | 4.8 | 4.8 | 4.7 | 4.7 | 4.5 | 4.4 | 4.3 | 4.3 | 4.2 | 4.1 | 4.0 | 3.9 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.5 | 3.5 |
| 6 | 7.6 | 7.4 | 7.3 | 7.2 | 7.1 | 7.0 | 6.8 | 6.6 | 6.5 | 6.4 | 6.3 | 6.2 | 6.0 | 5.9 | 5.8 | 5.7 | 5.6 | 5.5 | 5.4 | 5.3 | 5.3 |
| 8 | 10.2 | 9.9 | 9.7 | 9.5 | 9.3 | 9.2 | 9.0 | 8.9 | 8.7 | 8.5 | 8.3 | 8.2 | 8.0 | 7.9 | 7.8 | 7.7 | 7.6 | 7.5 | 7.2 | 7.1 | 6.9 |
| 10 | 13.6 | 13.4 | 13.1 | 12.8 | 12.5 | 12.3 | 12.0 | 11.7 | 11.4 | 11.0 | 10.7 | 10.4 | 10.0 | 9.9 | 9.7 | 9.5 | 9.3 | 9.0 | 8.8 | 8.6 | 8.6 |
| 13 | 16.8 | 16.5 | 16.3 | 15.9 | 15.7 | 15.4 | 15.0 | 14.7 | 14.3 | 14.0 | 13.7 | 13.4 | 13.0 | 12.8 | 12.5 | 12.2 | 12.0 | 11.7 | 11.5 | 11.2 | 11.0 |
| 16 | 20.5 | 20.0 | 19.8 | 19.4 | 19.0 | 18.7 | 18.4 | 18.0 | 17.6 | 17.2 | 16.8 | 16.4 | 16.0 | 16.0 | 15.0 | 15.0 | 15.0 | 14.0 | 14.0 | 13.0 | 13.0 |
| 20 | 25.3 | 25.0 | 24.5 | 24.0 | 23.7 | 23.2 | 22.8 | 22.4 | 21.9 | 21.5 | 21.0 | 20.5 | 20.0 | 20.0 | 19.0 | 19.0 | 19.0 | 18.0 | 18.0 | 17.0 | 17.0 |
| 25 | 31.1 | 30.5 | 30.0 | 29.5 | 29.0 | 28.5 | 28.0 | 27.5 | 27.0 | 26.5 | 26.0 | 25.5 | 25.0 | 25.0 | 24.0 | 24.0 | 23.0 | 23.0 | 22.0 | 21.0 | 21.0 |
| 32 | 40.5 | 39.8 | 39.2 | 38.5 | 37.9 | 37.2 | 36.5 | 35.8 | 35.0 | 34.3 | 33.6 | 32.8 | 32.0 | 32.0 | 31.0 | 30.0 | 30.0 | 29.0 | 28.0 | 28.0 | 27.0 |
| 40 | 51.0 | 50.0 | 49.2 | 48.4 | 47.5 | 46.7 | 45.8 | 45.0 | 44.0 | 43.0 | 42.0 | 41.0 | 40.0 | 39.0 | 39.0 | 38.0 | 37.0 | 36.0 | 35.0 | 34.0 | 33.0 |
| 50 | 64.0 | 63.0 | 62.0 | 60.8 | 59.8 | 58.6 | 57.4 | 56.3 | 55.0 | 53.8 | 52.6 | 51.3 | 50.0 | 49.0 | 48.0 | 47.0 | 46.0 | 44.0 | 42.0 | 40.0 | 38.0 |
| 63 | 82.0 | 80.7 | 79.2 | 77.8 | 76.3 | 74.7 | 73.2 | 71.6 | 70.0 | 68.3 | 66.6 | 64.8 | 63.0 | 62.0 | 61.0 | 60.0 | 58.0 | 57.0 | 55.0 | 52.0 | 50.0 |

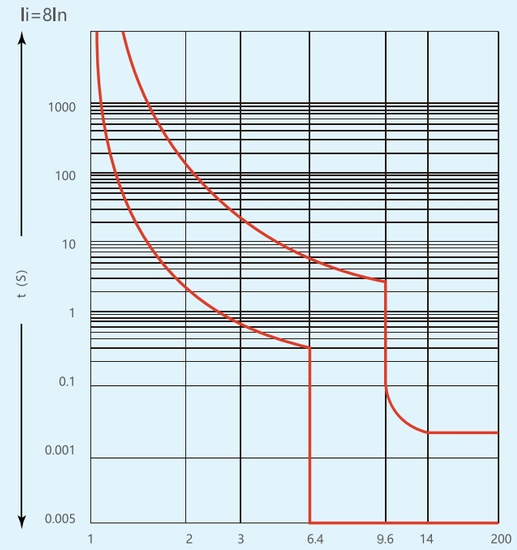




# 3.3 Tripping curve

Figure 1

IEC 60947-2





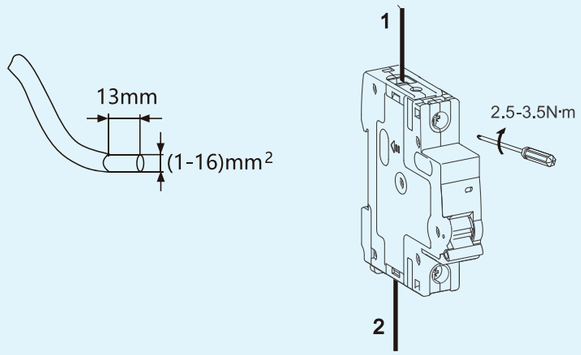

# 3.4 Current coefficient at different altitudes

Sheet 4

| Altitude(m) | 2000 | 3000 | 4000 | 5000 |
|---|---|---|---|---|
| Dielectric strength(V) | 3000 | 2500 | 2000 | 1800 |
| Max. Ue(V) | 440 | 440 | 440 | 440 |
| In(A) under 30℃ | 1×In | 0.95×In | 0.93×In | 0.9×In |

## 3.5 Installation diagram and conductor table

**Figure 2. Connection diagram**




| In(A) | Copper wire(mm²) |
|---|---|
| 1~8 | 1 |
| 10 | 1.5 |
| 13~20 | 2.5 |
| 25 | 4 |
| 32 | 6 |
| 40~50 | 10 |
| 63 | 16 |



## 4.0 Others

- High breaking capacity, all series can reach 15kA
- Equipped with red and green indication
- Ventilation slot design, low temperature rise and long service life
- Various kinds of connection: cable, U-type busbar, Pin-type busbar
- Din-rail type installation with large snap stroke, realizing quick installation





## 5.0 Overall and mounting dimensions

**Figure 3. Overall dimensions**

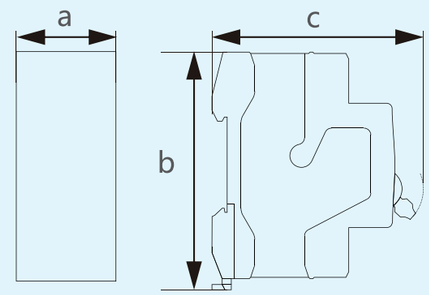
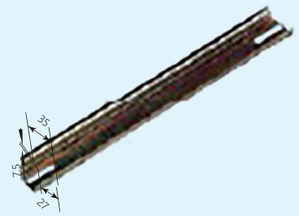



**Figure 4. TH35-7.5 din rail**




Sheet 5

| | 1P | 2P | 3P | 4P |
|---|---|---|---|---|
| a | 18 | 36 | 54 | 72 |
| b | 89 | 89 | 89 | 89 |
| c | 76 | 79 | 79 | 79 |