

# NH fuse-links gBat 1000V-1500V DC

## SPECIAL PURPOSE FUSES

### GBAT FUSES FOR BATTERY ENERGY SYSTEMS



Mersen NH gBat fuse series was engineered specifically for protection of battery systems. They offer full range protection and can protect very small over currents as well as DC fault current up to 150kA at max L/R 3ms. The NH gBat fuses serie covers various ratings in 1000VDC with NH1 and NH2 sizes, and in 1500VDC with NH1XL, NH2XL and NH3L. They are of the gBat type that comply with new IEC 60269-7 standard for Battery protection. They are available with bolted type blades for direct mounting, or with plain blades.

### TECHNICAL DATA OVERVIEW

|                       |                                                       |
|-----------------------|-------------------------------------------------------|
| Voltage Range DC      | 1000 ... 1500 VDC                                     |
| Ampere Range (A)      | 50 ... 400 A                                          |
| Speed/Characteristic  | gBat                                                  |
| Product Size          | NH1, NH2, NH1XL, NH2XL, NH3L                          |
| Operating temperature | -40°C - +70°C                                         |
| I.R. DC (UL)          | NH1/NH2/NH1XL/NH2XL: 50kA<br>NH3L 150kA@1500V L/R 3ms |

### FEATURES & BENEFITS

- Design for DC applications
- Full range breaking capacity
- Low watt losses
- Minimum breaking capacity 2IN
- High cycling performance
- High interrupting rating 150kA

### APPLICATIONS

- Electrical energy storage
- Battery storage system
- Line protection between battery system and DC/DC converter or battery inverter
- DC grid protection

### STANDARDS

- IEC 60269-7
- RoHS compliance



# NH fuse-links gBat 1000V-1500V DC

## PRODUCT RANGE

### NH fuse links gBat 1000VDC Plain Blade



10NH1GBAT50



10NH2GBAT200

| Catalog number | Item number | Size | Rated current $I_n$ | Pre-arcing $I^2t$       | Power dissipation at $I_n$ | Power dissipation at $0.7 \times I_n$ | Total Clearing $I^2t$ @ $U_n$ (L/R=2ms) | Package | Weight |
|----------------|-------------|------|---------------------|-------------------------|----------------------------|---------------------------------------|-----------------------------------------|---------|--------|
| 10NH1GBAT50    | T1068620    | 1    | 50 A                | 0.65 kA <sup>2</sup> s  | 11 W                       | 4.6 W                                 | 2.4 kA <sup>2</sup> s                   | 3       | 0.3 kg |
| 10NH1GBAT63    | V1068621    | 1    | 63 A                | 1.46 kA <sup>2</sup> s  | 13 W                       | 5.4 W                                 | 5.35 kA <sup>2</sup> s                  | 3       | 0.3 kg |
| 10NH1GBAT80    | W1068622    | 1    | 80 A                | 2.6 kA <sup>2</sup> s   | 15 W                       | 6.1 W                                 | 9.5 kA <sup>2</sup> s                   | 3       | 0.3 kg |
| 10NH1GBAT100   | X1068623    | 1    | 100 A               | 4.6 kA <sup>2</sup> s   | 17 W                       | 7.2 W                                 | 13.25 kA <sup>2</sup> s                 | 3       | 0.3 kg |
| 10NH1GBAT125   | Y1068624    | 1    | 125 A               | 10.37 kA <sup>2</sup> s | 18 W                       | 7.4 W                                 | 29.75 kA <sup>2</sup> s                 | 3       | 0.3 kg |
| 10NH1GBAT160   | Z1068625    | 1    | 160 A               | 20 kA <sup>2</sup> s    | 23 W                       | 9.6 W                                 | 57.4 kA <sup>2</sup> s                  | 3       | 0.3 kg |
| 10NH2GBAT200   | A1068626    | 2    | 200 A               | 36.45 kA <sup>2</sup> s | 27 W                       | 11.3 W                                | 130.4 kA <sup>2</sup> s                 | 3       | 0.6 kg |
| 10NH2GBAT250   | B1068627    | 2    | 250 A               | 64.8 kA <sup>2</sup> s  | 31 W                       | 12.9 W                                | 231.7 kA <sup>2</sup> s                 | 3       | 0.6 kg |

### NH fuse links gBat 1000VDC Direct Mounting



10NH1GBAT50B



10NH2GBAT200B

| Catalog number | Item number | Size | Rated current $I_n$ | Pre-arcing $I^2t$       | Power dissipation at $I_n$ | Power dissipation at $0.7 \times I_n$ | Total Clearing $I^2t$ @ $U_n$ (L/R=2ms) | Package | Weight  |
|----------------|-------------|------|---------------------|-------------------------|----------------------------|---------------------------------------|-----------------------------------------|---------|---------|
| 10NH1GBAT50B   | K1068612    | 1    | 50 A                | 0.65 kA <sup>2</sup> s  | 11 W                       | 4.6 W                                 | 2.4 kA <sup>2</sup> s                   | 3       | 0.4 kg  |
| 10NH1GBAT80B   | M1068614    | 1    | 80 A                | 2.6 kA <sup>2</sup> s   | 15 W                       | 6.1 W                                 | 9.5 kA <sup>2</sup> s                   | 3       | 0.4 kg  |
| 10NH1GBAT63B   | L1068613    | 1    | 63 A                | 1.46 kA <sup>2</sup> s  | 13 W                       | 5.4 W                                 | 5.35 kA <sup>2</sup> s                  | 3       | 0.4 kg  |
| 10NH1GBAT100B  | N1068615    | 1    | 100 A               | 4.6 kA <sup>2</sup> s   | 17 W                       | 7.2 W                                 | 13.25 kA <sup>2</sup> s                 | 3       | 0.4 kg  |
| 10NH1GBAT125B  | P1068616    | 1    | 125 A               | 10.37 kA <sup>2</sup> s | 18 W                       | 7.4 W                                 | 29.75 kA <sup>2</sup> s                 | 3       | 0.4 kg  |
| 10NH1GBAT160B  | Q1068617    | 1    | 160 A               | 20 kA <sup>2</sup> s    | 23 W                       | 9.6 W                                 | 57.4 kA <sup>2</sup> s                  | 3       | 0.4 kg  |
| 10NH2GBAT200B  | R1068618    | 2    | 200 A               | 36.45 kA <sup>2</sup> s | 27 W                       | 11.3 W                                | 130.4 kA <sup>2</sup> s                 | 3       | 0.63 kg |
| 10NH2GBAT250B  | S1068619    | 2    | 250 A               | 64.8 kA <sup>2</sup> s  | 31 W                       | 12.9 W                                | 231.7 kA <sup>2</sup> s                 | 3       | 0.63 kg |

# NH fuse-links gBat 1000V-1500V DC

## PRODUCT RANGE



15NH1XLGBAT50



15NH2XLGBAT200



15NH3LGBAT160

### NH-fuse-links gBat 1500VDC plain blade

| Catalog number | Item number | Size | Rated current $I_n$ | Pre-arcing $I^2t$        | Power dissipation at $I_n$ | Power dissipation at $0.7I_n$ | Total Clearing $I^2t$ @ $U_n$ (L/R=2ms) | Package | Weight  |
|----------------|-------------|------|---------------------|--------------------------|----------------------------|-------------------------------|-----------------------------------------|---------|---------|
| 15NH1XLGBAT50  | C1068628    | 1XL  | 50 A                | 0.97 kA <sup>2</sup> s   | 21 W                       | 8.6 W                         | 3.05 kA <sup>2</sup> s                  | 1       | 0.7 kg  |
| 15NH1XLGBAT63  | D1068629    | 1XL  | 63 A                | 2.05 kA <sup>2</sup> s   | 25 W                       | 10.2 W                        | 6.75 kA <sup>2</sup> s                  | 1       | 0.7 kg  |
| 15NH1XLGBAT80  | E1068630    | 1XL  | 80 A                | 4.6 kA <sup>2</sup> s    | 25.5 W                     | 10.3 W                        | 15 kA <sup>2</sup> s                    | 1       | 0.7 kg  |
| 15NH1XLGBAT100 | G1068632    | 1XL  | 100 A               | 10.37 kA <sup>2</sup> s  | 26 W                       | 10.5 W                        | 32.35 kA <sup>2</sup> s                 | 1       | 0.7 kg  |
| 15NH1XLGBAT125 | H1068633    | 1XL  | 125 A               | 18.43 kA <sup>2</sup> s  | 30 W                       | 12.2 W                        | 61.15 kA <sup>2</sup> s                 | 1       | 0.7 kg  |
| 15NH2XLGBAT160 | Q1068640    | 2XL  | 160 A               | 28.8 kA <sup>2</sup> s   | 38 W                       | 15.4 W                        | 84.6 kA <sup>2</sup> s                  | 1       | 1.05 kg |
| 15NH2XLGBAT125 | P1068639    | 2XL  | 125 A               | 14.11 kA <sup>2</sup> s  | 33.7 W                     | 13.6 W                        | 38.2 kA <sup>2</sup> s                  | 1       | 1.05 kg |
| 15NH2XLGBAT200 | S1068642    | 2XL  | 200 A               | 54.45 kA <sup>2</sup> s  | 48 W                       | 19.4 W                        | 129.2 kA <sup>2</sup> s                 | 1       | 1.05 kg |
| 15NH2XLGBAT250 | T1068643    | 2XL  | 250 A               | 115.2 kA <sup>2</sup> s  | 51.7 W                     | 20.9 W                        | 222.2 kA <sup>2</sup> s                 | 1       | 1.05 kg |
| 15NH3LGBAT160  | Z1068648    | 3L   | 160 A               | 28.8 kA <sup>2</sup> s   | 36 W                       | 15 W                          | 72 kA <sup>2</sup> s                    | 1       | 1.69 kg |
| 15NH3LGBAT200  | A1068649    | 3L   | 200 A               | 56.45 kA <sup>2</sup> s  | 44 W                       | 18 W                          | 141.1 kA <sup>2</sup> s                 | 1       | 1.69 kg |
| 15NH3LGBAT250  | B1068650    | 3L   | 250 A               | 101.25 kA <sup>2</sup> s | 50 W                       | 20 W                          | 253.1 kA <sup>2</sup> s                 | 1       | 1.69 kg |
| 15NH3LGBAT315  | C1068651    | 3L   | 315 A               | 240.8 kA <sup>2</sup> s  | 57 W                       | 23 W                          | 512 kA <sup>2</sup> s                   | 1       | 1.69 kg |
| 15NH3LGBAT350  | D1068652    | 3L   | 350 A               | 259.2 kA <sup>2</sup> s  | 63 W                       | 25 W                          | 648 kA <sup>2</sup> s                   | 1       | 1.69 kg |
| 15NH3LGBAT400  | E1068653    | 3L   | 400 A               | 361.25 kA <sup>2</sup> s | 71 W                       | 28 W                          | 903.1 kA <sup>2</sup> s                 | 1       | 1.69 kg |

### NH-fuse-links gBat 1500VDC direct mounting



15NH1XLGBAT50B



15NH2XLGBAT125B



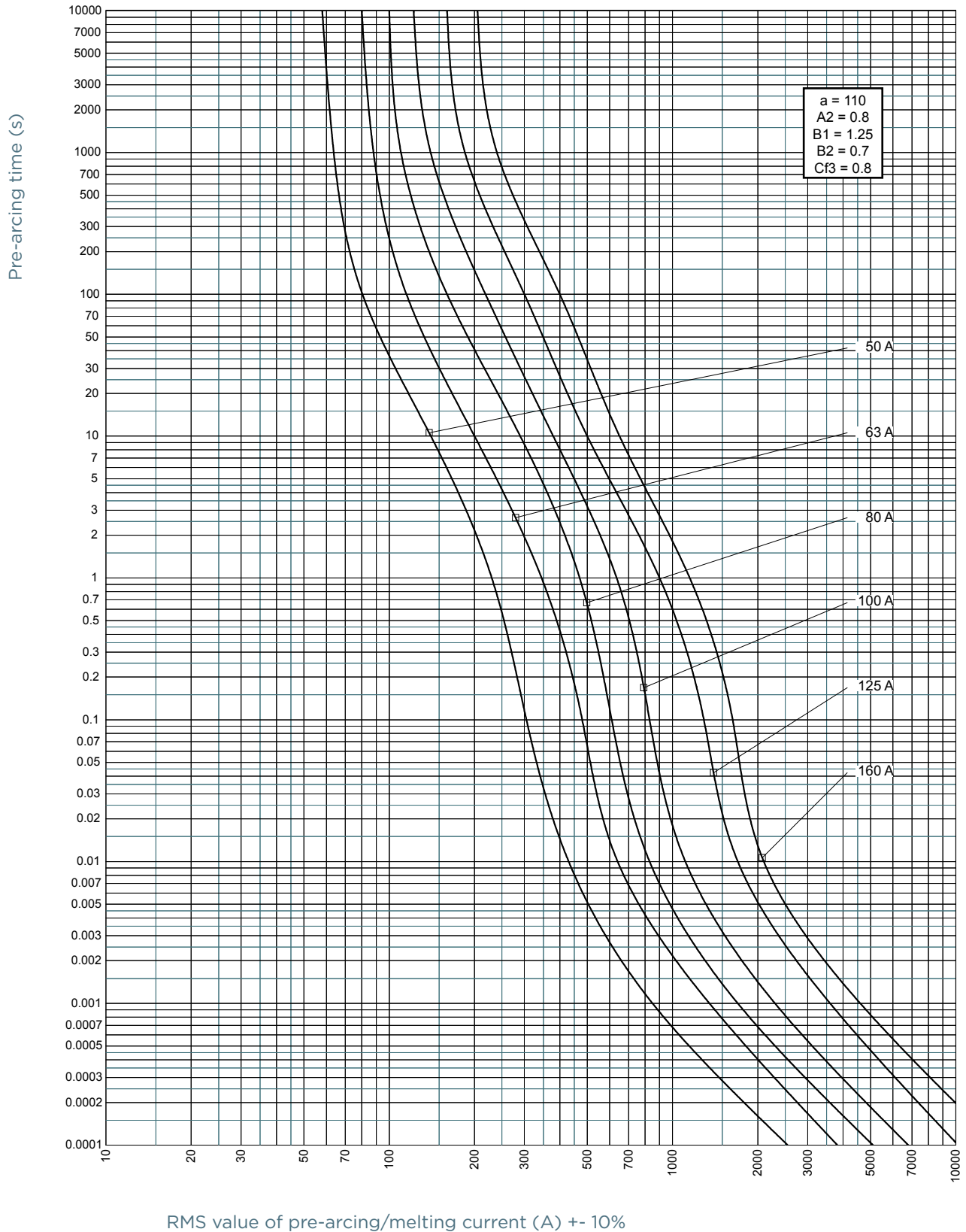
15NH3LGBAT160B

| Catalog number  | Item number | Size | Rated current $I_n$ | Pre-arcing $I^2t$        | Power dissipation at $I_n$ | Power dissipation at $0.7I_n$ | Total Clearing $I^2t$ @ $U_n$ (L/R=2ms) | Package | Weight  |
|-----------------|-------------|------|---------------------|--------------------------|----------------------------|-------------------------------|-----------------------------------------|---------|---------|
| 15NH1XLGBAT50B  | J1068634    | 1XL  | 50 A                | 0.97 kA <sup>2</sup> s   | 21 W                       | 8.6 W                         | 3.05 kA <sup>2</sup> s                  | 1       | 0.69 kg |
| 15NH1XLGBAT63B  | K1068635    | 1XL  | 63 A                | 2.05 kA <sup>2</sup> s   | 25 W                       | 10.2 W                        | 6.75 kA <sup>2</sup> s                  | 1       | 0.69 kg |
| 15NH1XLGBAT80B  | L1068636    | 1XL  | 80 A                | 4.6 kA <sup>2</sup> s    | 25.5 W                     | 10.3 W                        | 15 kA <sup>2</sup> s                    | 1       | 0.69 kg |
| 15NH1XLGBAT100B | M1068637    | 1XL  | 100 A               | 10.37 kA <sup>2</sup> s  | 26 W                       | 10.5 W                        | 32.35 kA <sup>2</sup> s                 | 1       | 0.69 kg |
| 15NH1XLGBAT125B | N1068638    | 1XL  | 125 A               | 18.43 kA <sup>2</sup> s  | 30 W                       | 12.2 W                        | 61.15 kA <sup>2</sup> s                 | 1       | 0.69 kg |
| 15NH2XLGBAT125B | V1068644    | 2XL  | 125 A               | 14.11 kA <sup>2</sup> s  | 33.7 W                     | 13.6 W                        | 38.2 kA <sup>2</sup> s                  | 1       | 1.02 kg |
| 15NH2XLGBAT160B | W1068645    | 2XL  | 160 A               | 28.8 kA <sup>2</sup> s   | 38 W                       | 15.4 W                        | 84.6 kA <sup>2</sup> s                  | 1       | 1.02 kg |
| 15NH2XLGBAT200B | X1068646    | 2XL  | 200 A               | 54.45 kA <sup>2</sup> s  | 48 W                       | 19.4 W                        | 129.2 kA <sup>2</sup> s                 | 1       | 1.02 kg |
| 15NH2XLGBAT250B | Y1068647    | 2XL  | 250 A               | 115.2 kA <sup>2</sup> s  | 51.7 W                     | 20.9 W                        | 222.2 kA <sup>2</sup> s                 | 1       | 1.02 kg |
| 15NH3LGBAT160B  | F1068654    | 3L   | 160 A               | 28.8 kA <sup>2</sup> s   | 36 W                       | 15 W                          | 72 kA <sup>2</sup> s                    | 1       | 1.66 kg |
| 15NH3LGBAT200B  | G1068655    | 3L   | 200 A               | 56.45 kA <sup>2</sup> s  | 44 W                       | 18 W                          | 141.1 kA <sup>2</sup> s                 | 1       | 1.66 kg |
| 15NH3LGBAT250B  | H1068656    | 3L   | 250 A               | 101.25 kA <sup>2</sup> s | 50 W                       | 20 W                          | 253.1 kA <sup>2</sup> s                 | 1       | 1.66 kg |
| 15NH3LGBAT315B  | J1068657    | 3L   | 315 A               | 240.8 kA <sup>2</sup> s  | 57 W                       | 23 W                          | 512 kA <sup>2</sup> s                   | 1       | 1.66 kg |
| 15NH3LGBAT350B  | K1068658    | 3L   | 350 A               | 259.2 kA <sup>2</sup> s  | 63 W                       | 25 W                          | 648 kA <sup>2</sup> s                   | 1       | 1.66 kg |
| 15NH3LGBAT400B  | L1068659    | 3L   | 400 A               | 361.25 kA <sup>2</sup> s | 71 W                       | 28 W                          | 903.1 kA <sup>2</sup> s                 | 1       | 1.66 kg |

# NH fuse-links gBat 1000V-1500V DC

## TIME CURRENT CHARACTERISTIC CURVES

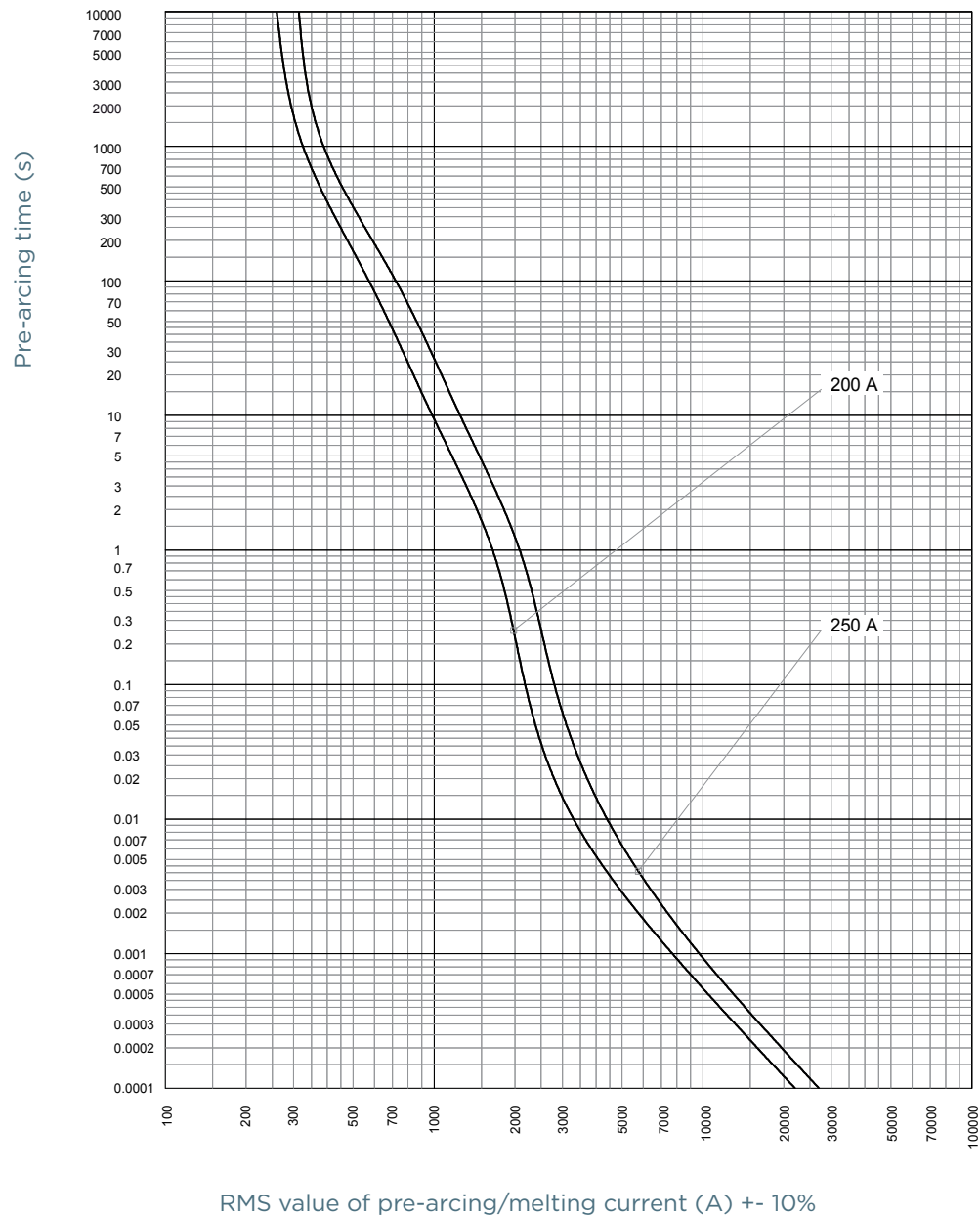
Special purpose gBat fuse link size NH1 1000V 50-160A



# NH fuse-links gBat 1000V-1500V DC

## TIME CURRENT CHARACTERISTIC CURVES

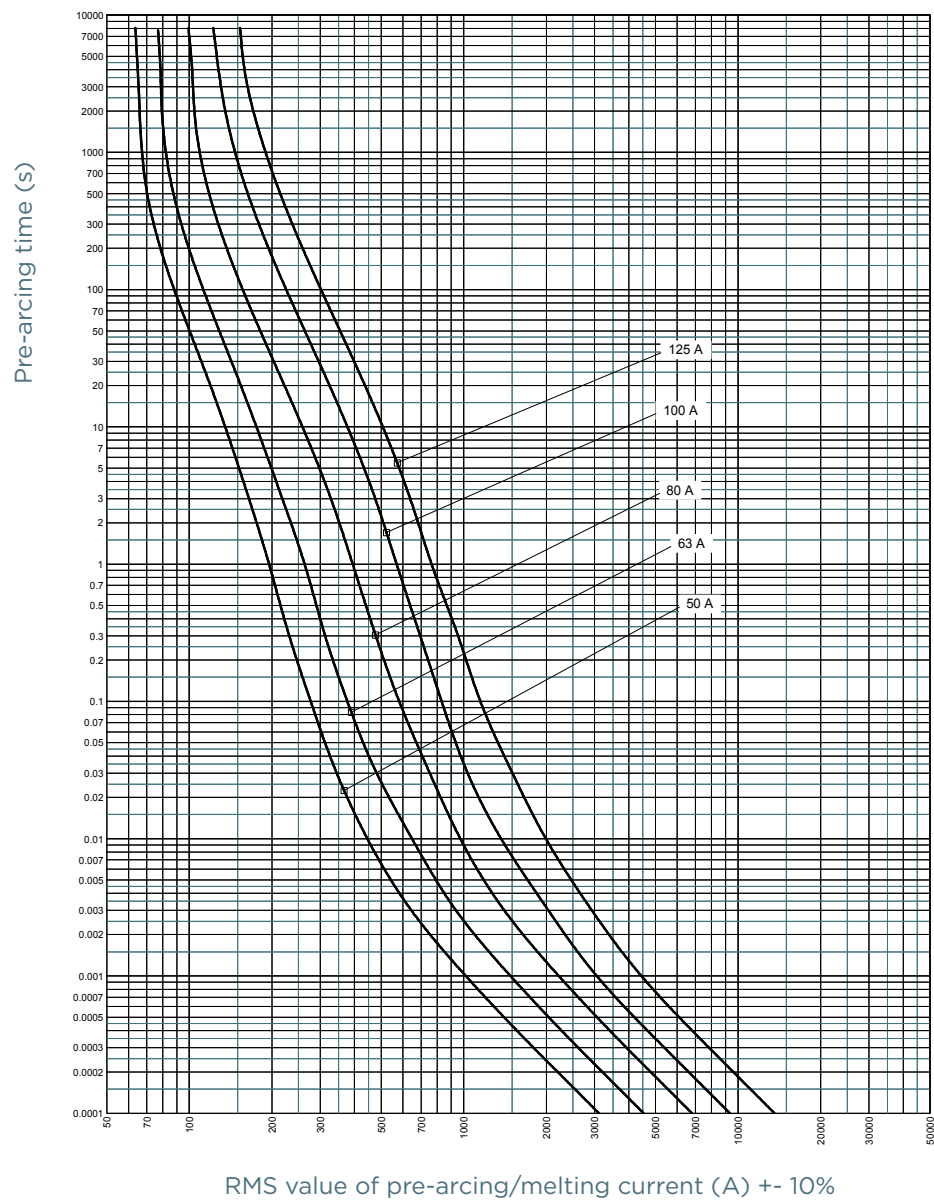
Special purpose gBat fuse link size NH2 1000V 200-250A



# NH fuse-links gBat 1000V-1500V DC

## TIME CURRENT CHARACTERISTIC CURVES

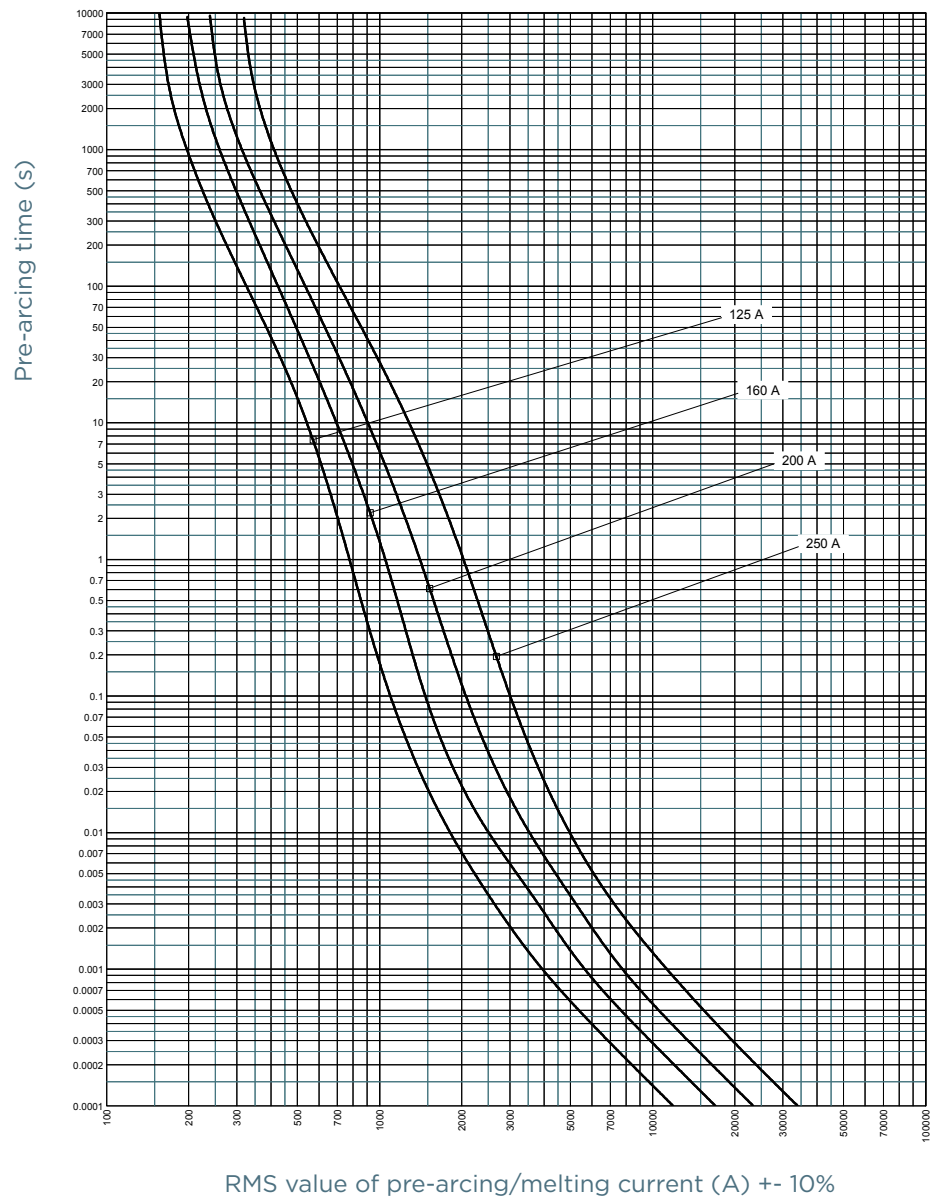
Special purpose gBat fuse link size 1XL 1500V 50-125A



# NH fuse-links gBat 1000V-1500V DC

## TIME CURRENT CHARACTERISTIC CURVES

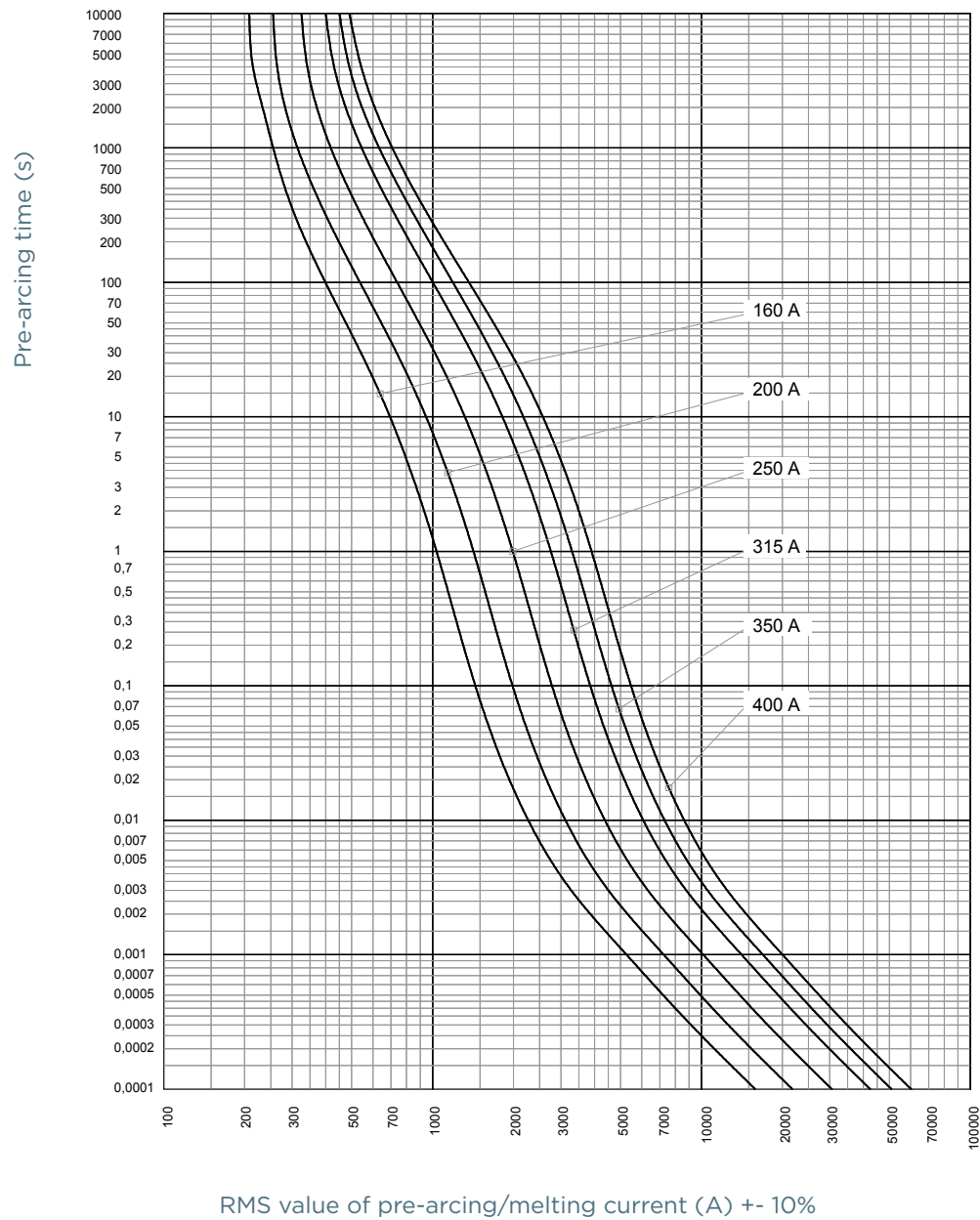
Special purpose gBat fuse link size 2XL 1500V 125-250A



# NH fuse-links gBat 1000V-1500V DC

## TIME CURRENT CHARACTERISTIC CURVES

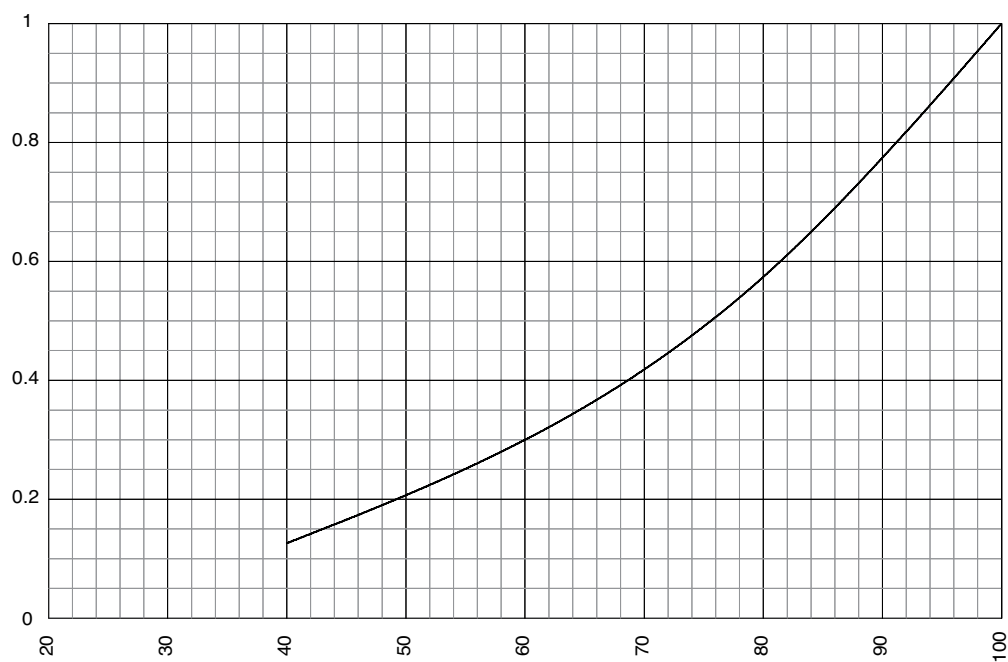
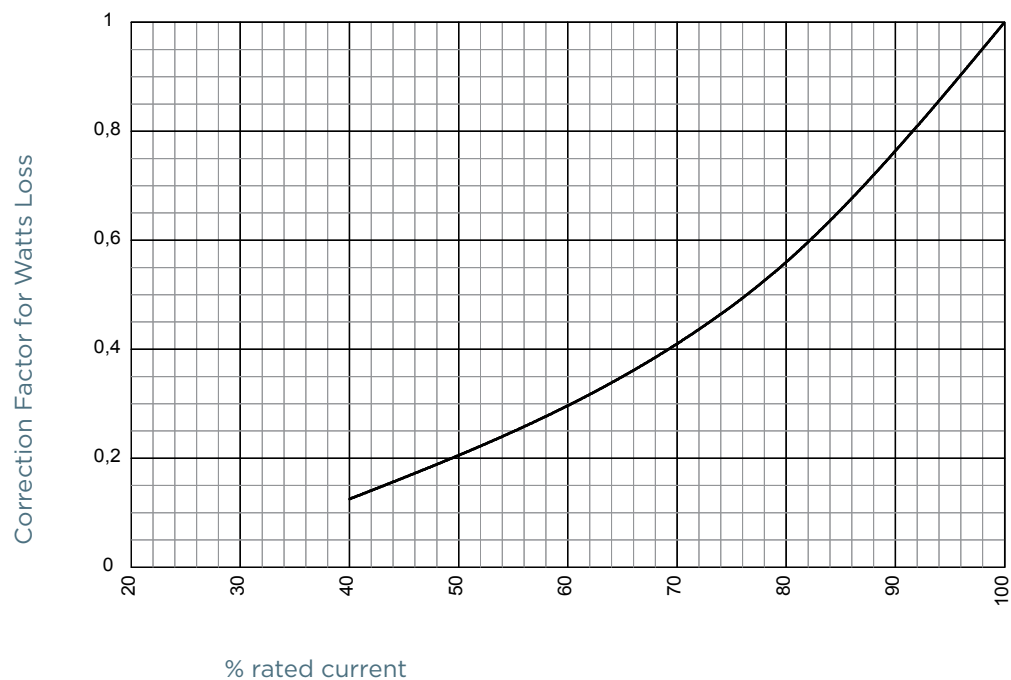
Special purpose gBat fuse link size 3L 1500V 160-400A



# NH fuse-links gBat 1000V-1500V DC

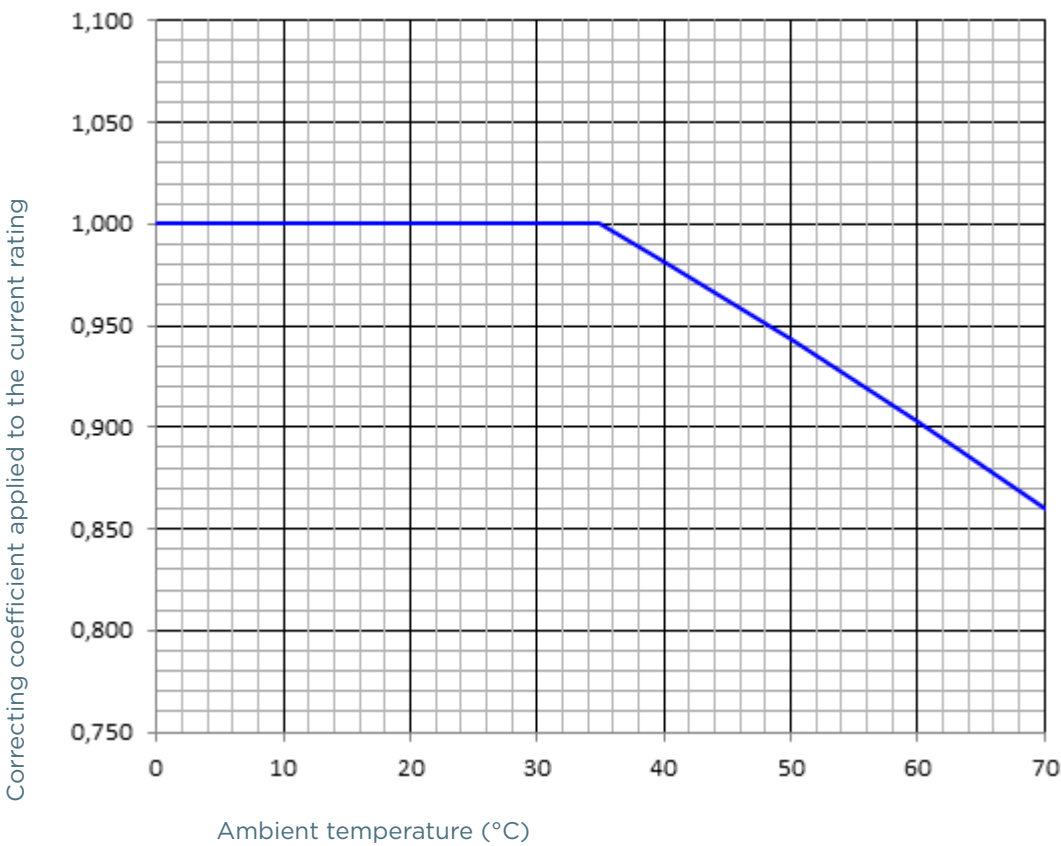
## CORRECTION FACTOR

Watts loss vs % rated current



# NH fuse-links gBat 1000V-1500V DC

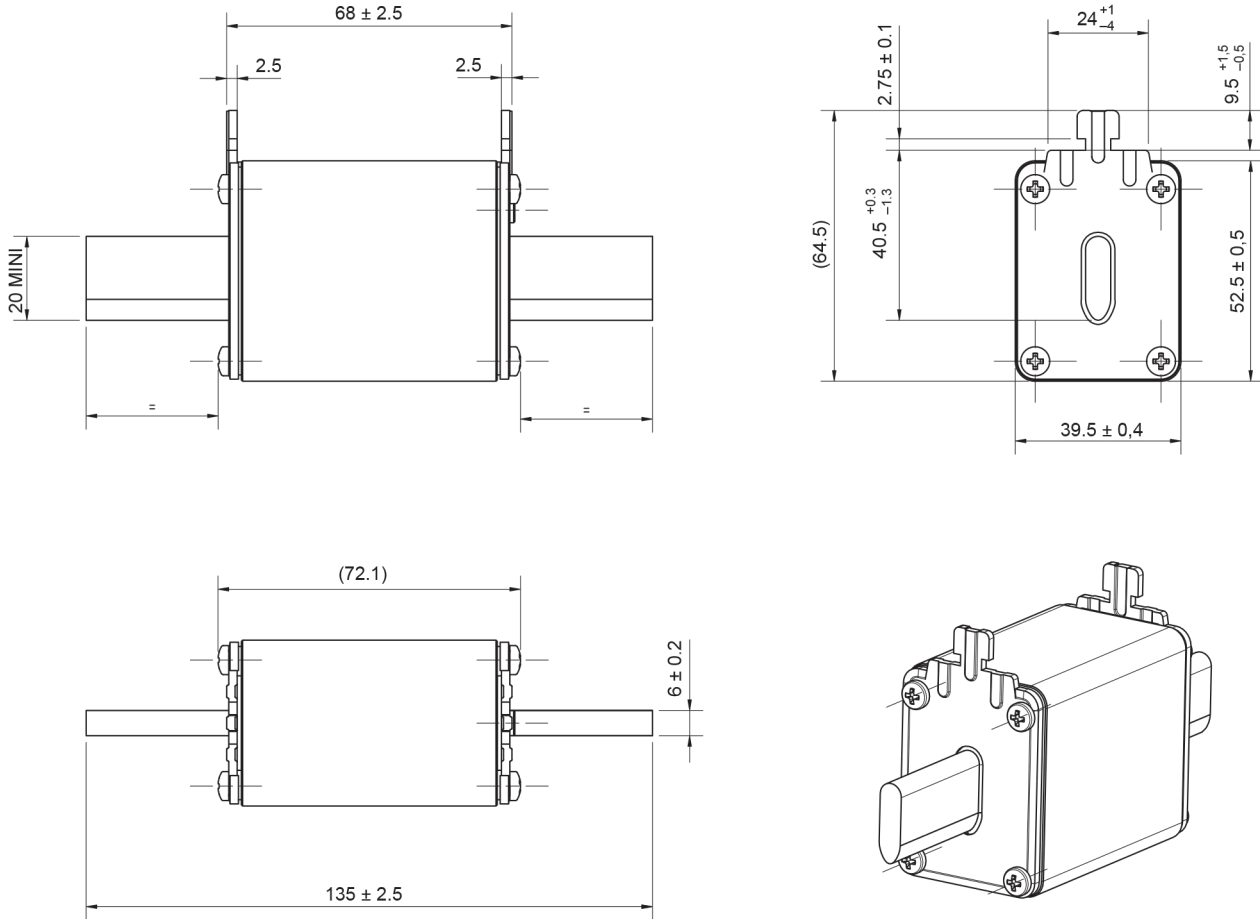
## TEMPERATURE DERATING



# NH fuse-links gBat 1000V-1500V DC

## DIMENSIONS

### Special purpose gBat fuse link size NH1 Plain Blade without trip indicator

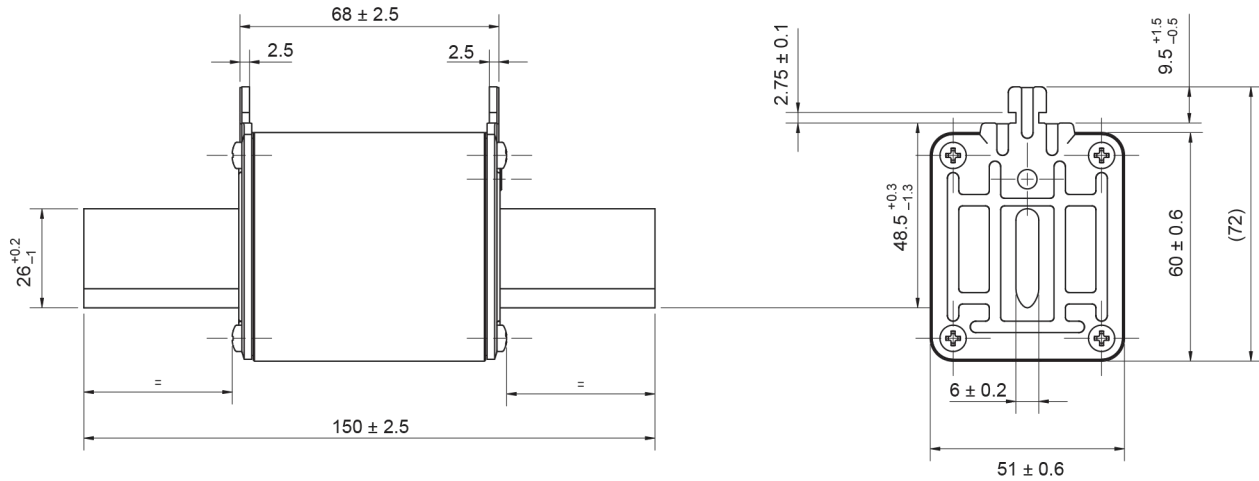


Dimensions in mm

# NH fuse-links gBat 1000V-1500V DC

## DIMENSIONS

### Special purpose gBat fuse link size NH2 Plain Blade without trip indicator

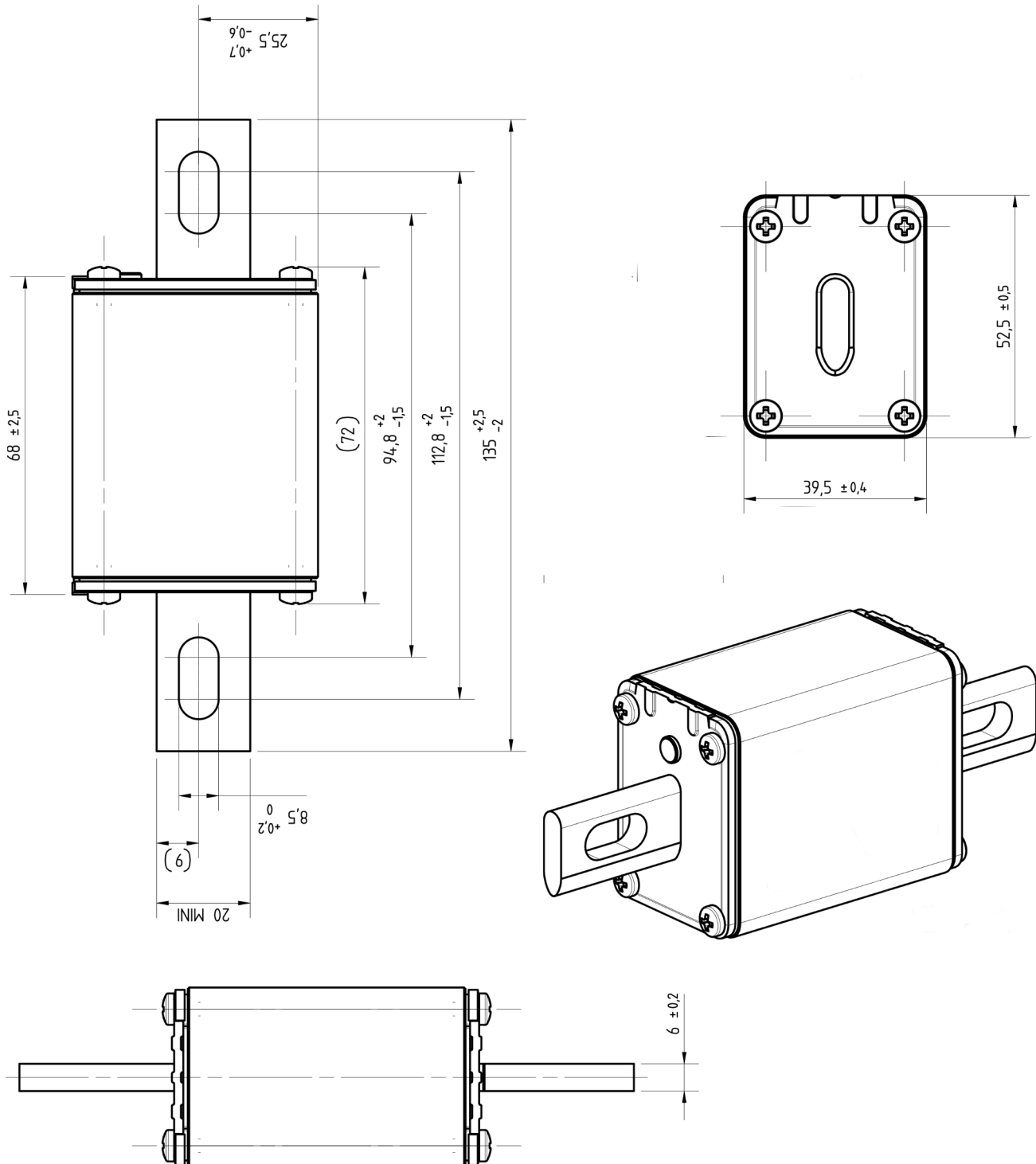


Dimensions in mm

# NH fuse-links gBat 1000V-1500V DC

## DIMENSIONS

Special purpose gBat fuse link size NH1 Direct Mounting without trip indicator and without lugs

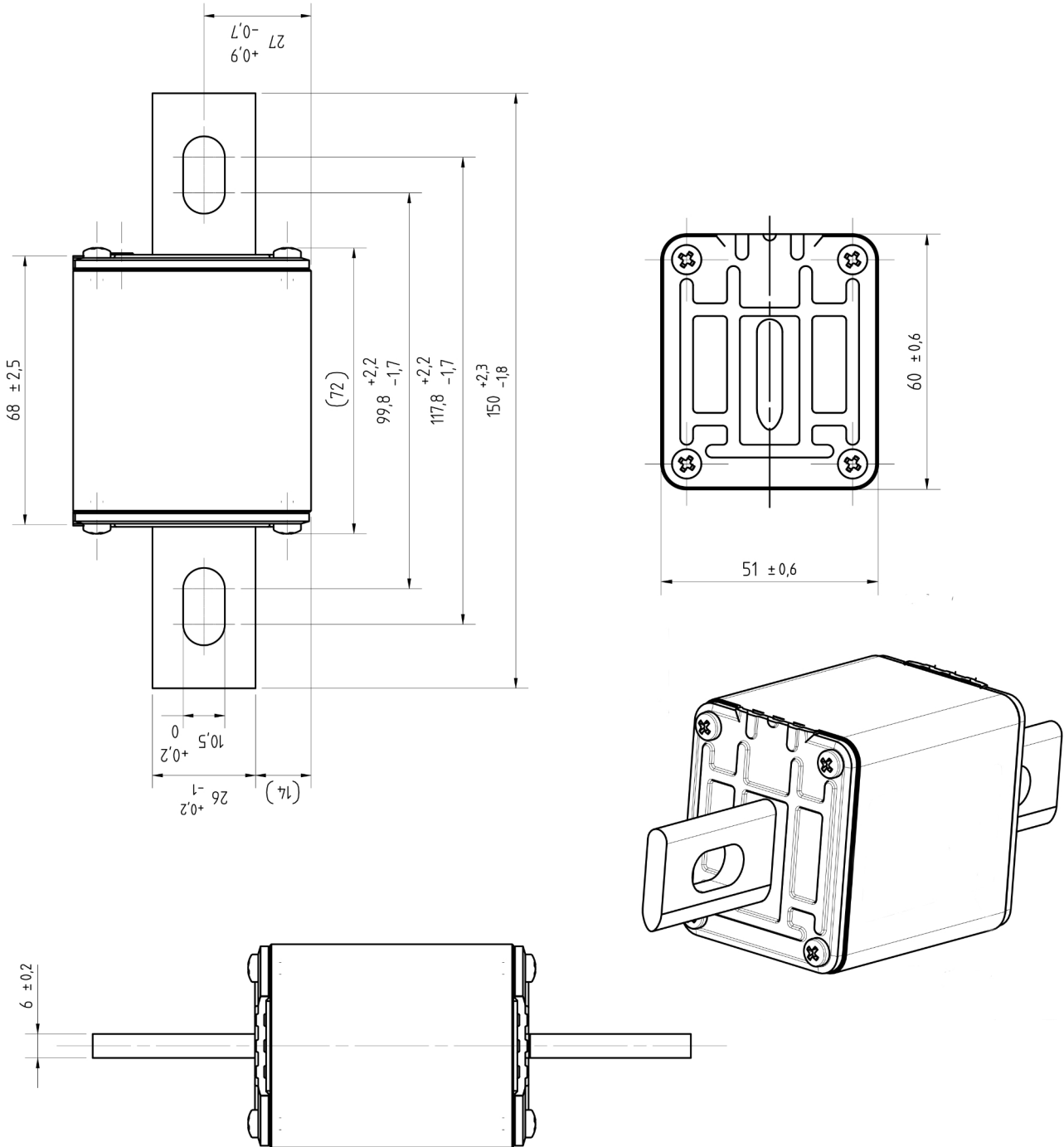


Dimensions in mm

# NH fuse-links gBat 1000V-1500V DC

## DIMENSIONS

Special purpose gBat fuse link size NH2 Direct Mounting without trip indicator and without lugs



Dimensions in mm

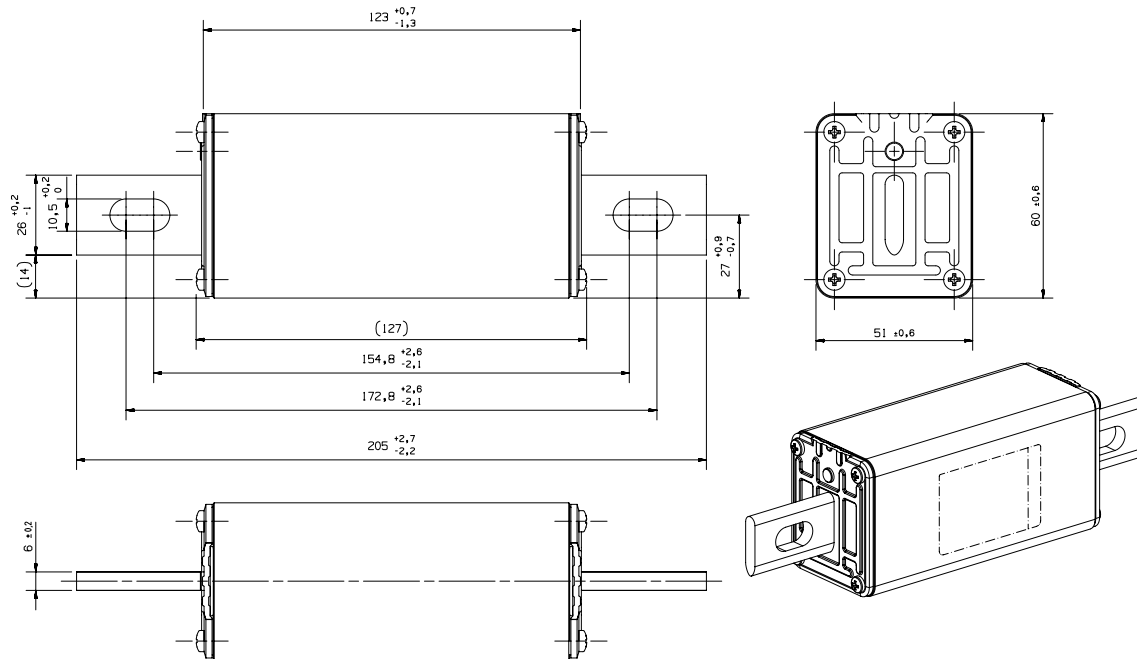




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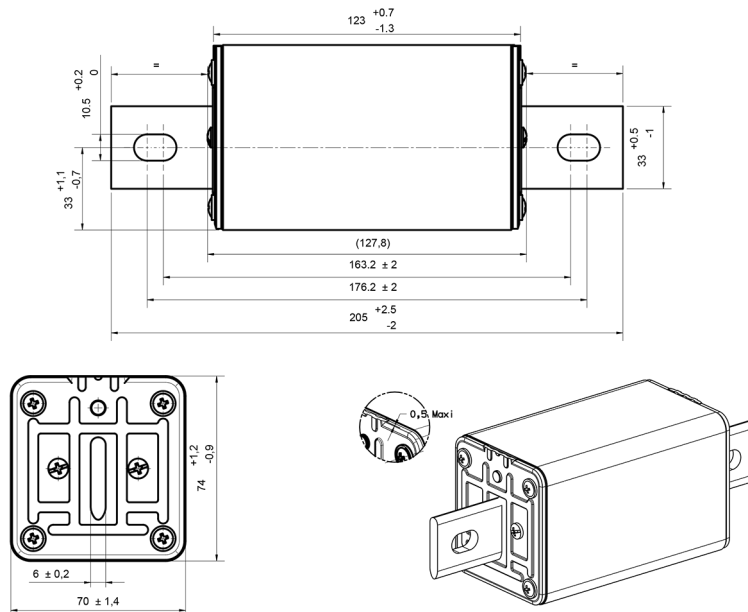
## DIMENSIONS

### Special purpose gBat fuse-link size 2XL Direct Mounting without striker and without lugs



Dimensions in mm

### Special purpose gBat fuse-link size 3L Direct Mounting without striker and without lugs



Dimensions in mm