# Miniature Circuit Breakers Ex9BN, 6 kA

- **Miniature Circuit Breakers according to IEC/EN 60898-1 and IEC/EN 60947-2 (partially)**
- **Rated short circuit breaking capacity 6 kA**
- **1 up to 4-pole versions**
- **Tripping characteristics B, C, D**
- **Rated current up to 63 A**
- **Rated operational voltage 240/415 V AC**
- **72 V DC per pole (1P, 2P)**
  **48 V DC per pole (3P, 4P)**
- **Wide range of accessories**

Ex9BN miniature circuit breakers are suitable for domestic as well as industrial applications. They can be combined with wide range of accessories including auxiliary and signal contacts, shunt trip release, undervoltage and overvoltage release or RCD add-on block. It is possible to create diversed combination of accessories. These combinations are only limited by total number, not by the type of accessories - all components fit together. It can be used up to three units of auxiliary or alarm contacts plus up to two units for release units.

## Type Key

| Ex9 | B | N | 1P | B | 16 |
|---|---|---|---|---|---|
| Product family | Product | Breaking capacity | Poles | Tripping curve | Rated current |
| Ex9 | B: MCB | N: 6 kA | 1, 1N, 2, 3, 3N, 4 | B, C, D | 1 - 63 A |

## Certification marks

# Miniature Circuit Breakers Ex9BN, 6 kA

## Accessories

Auxiliary or signal contacts
**AX, AL, AXL**
Up to 3 units

Voltage or trip releases
**SHT, UVT, OVT**
Up to 2 units

MCB
**Ex9B**
1, 1+N, 2, 3, 3+N, 4-pole

RCD add-on block
**Ex9LE**
1+N, 2, 3, 3+N, 4-pole

Auxiliary contacts AX3111, AX3122

Alarm contact AL3111

Auxiliary and alarm contact AXL31

Shunt trip releases SHT31, SHT3111

Undervoltage releases UVT31, UVT3101, UVT3110

Overvoltage release OVT31

RCD add-on blocks Ex9LE

RCD add-on blocks are mounted to the MCBs Ex9B from the right, the other accessories from the left and are identical for devices of the line Ex9B, Ex9PN and Ex9IP.

# Miniature Circuit Breakers Ex9BN, 6 kA

## B-Characteristic, 1-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1 | B | 100000 | Ex9BN 1P B1 | 1/12/144 |
| 2 A | 1 | B | 100001 | Ex9BN 1P B2 | 1/12/144 |
| 3 A | 1 | B | 100002 | Ex9BN 1P B3 | 1/12/144 |
| 4 A | 1 | B | 100003 | Ex9BN 1P B4 | 1/12/144 |
| 6 A | 1 | B | 100004 | Ex9BN 1P B6 | 1/12/144 |
| 8 A | 1 | B | 100005 | Ex9BN 1P B8 | 1/12/144 |
| 10 A | 1 | B | 100006 | Ex9BN 1P B10 | 1/12/144 |
| 13 A | 1 | B | 100007 | Ex9BN 1P B13 | 1/12/144 |
| 16 A | 1 | B | 100008 | Ex9BN 1P B16 | 1/12/144 |
| 20 A | 1 | B | 100009 | Ex9BN 1P B20 | 1/12/144 |
| 25 A | 1 | B | 100010 | Ex9BN 1P B25 | 1/12/144 |
| 32 A | 1 | B | 100011 | Ex9BN 1P B32 | 1/12/144 |
| 40 A | 1 | B | 100012 | Ex9BN 1P B40 | 1/12/144 |
| 50 A | 1 | B | 100013 | Ex9BN 1P B50 | 1/12/144 |
| 63 A | 1 | B | 100014 | Ex9BN 1P B63 | 1/12/144 |

## B-Characteristic, 1+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1+N | B | 100015 | Ex9BN 1PN B1 | 1/6/72 |
| 2 A | 1+N | B | 100016 | Ex9BN 1PN B2 | 1/6/72 |
| 3 A | 1+N | B | 100017 | Ex9BN 1PN B3 | 1/6/72 |
| 4 A | 1+N | B | 100018 | Ex9BN 1PN B4 | 1/6/72 |
| 6 A | 1+N | B | 100019 | Ex9BN 1PN B6 | 1/6/72 |
| 8 A | 1+N | B | 100020 | Ex9BN 1PN B8 | 1/6/72 |
| 10 A | 1+N | B | 100021 | Ex9BN 1PN B10 | 1/6/72 |
| 13 A | 1+N | B | 100022 | Ex9BN 1PN B13 | 1/6/72 |
| 16 A | 1+N | B | 100023 | Ex9BN 1PN B16 | 1/6/72 |
| 20 A | 1+N | B | 100024 | Ex9BN 1PN B20 | 1/6/72 |
| 25 A | 1+N | B | 100025 | Ex9BN 1PN B25 | 1/6/72 |
| 32 A | 1+N | B | 100026 | Ex9BN 1PN B32 | 1/6/72 |
| 40 A | 1+N | B | 100027 | Ex9BN 1PN B40 | 1/6/72 |
| 50 A | 1+N | B | 100028 | Ex9BN 1PN B50 | 1/6/72 |
| 63 A | 1+N | B | 100029 | Ex9BN 1PN B63 | 1/6/72 |

## B-Characteristic, 2-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 2 | B | 100030 | Ex9BN 2P B1 | 1/6/72 |
| 2 A | 2 | B | 100031 | Ex9BN 2P B2 | 1/6/72 |
| 3 A | 2 | B | 100032 | Ex9BN 2P B3 | 1/6/72 |
| 4 A | 2 | B | 100033 | Ex9BN 2P B4 | 1/6/72 |
| 6 A | 2 | B | 100034 | Ex9BN 2P B6 | 1/6/72 |
| 8 A | 2 | B | 100035 | Ex9BN 2P B8 | 1/6/72 |
| 10 A | 2 | B | 100036 | Ex9BN 2P B10 | 1/6/72 |
| 13 A | 2 | B | 100037 | Ex9BN 2P B13 | 1/6/72 |
| 16 A | 2 | B | 100038 | Ex9BN 2P B16 | 1/6/72 |
| 20 A | 2 | B | 100039 | Ex9BN 2P B20 | 1/6/72 |
| 25 A | 2 | B | 100040 | Ex9BN 2P B25 | 1/6/72 |
| 32 A | 2 | B | 100041 | Ex9BN 2P B32 | 1/6/72 |
| 40 A | 2 | B | 100042 | Ex9BN 2P B40 | 1/6/72 |
| 50 A | 2 | B | 100043 | Ex9BN 2P B50 | 1/6/72 |
| 63 A | 2 | B | 100044 | Ex9BN 2P B63 | 1/6/72 |

# Miniature Circuit Breakers Ex9BN, 6 kA

## B-Characteristic, 3-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3 | B | 100045 | Ex9BN 3P B1 | 1/4/48 |
| 2 A | 3 | B | 100046 | Ex9BN 3P B2 | 1/4/48 |
| 3 A | 3 | B | 100047 | Ex9BN 3P B3 | 1/4/48 |
| 4 A | 3 | B | 100048 | Ex9BN 3P B4 | 1/4/48 |
| 6 A | 3 | B | 100049 | Ex9BN 3P B6 | 1/4/48 |
| 8 A | 3 | B | 100050 | Ex9BN 3P B8 | 1/4/48 |
| 10 A | 3 | B | 100051 | Ex9BN 3P B10 | 1/4/48 |
| 13 A | 3 | B | 100052 | Ex9BN 3P B13 | 1/4/48 |
| 16 A | 3 | B | 100053 | Ex9BN 3P B16 | 1/4/48 |
| 20 A | 3 | B | 100054 | Ex9BN 3P B20 | 1/4/48 |
| 25 A | 3 | B | 100055 | Ex9BN 3P B25 | 1/4/48 |
| 32 A | 3 | B | 100056 | Ex9BN 3P B32 | 1/4/48 |
| 40 A | 3 | B | 100057 | Ex9BN 3P B40 | 1/4/48 |
| 50 A | 3 | B | 100058 | Ex9BN 3P B50 | 1/4/48 |
| 63 A | 3 | B | 100059 | Ex9BN 3P B63 | 1/4/48 |

## B-Characteristic, 3+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3+N | B | 100060 | Ex9BN 3PN B1 | 1/3/36 |
| 2 A | 3+N | B | 100061 | Ex9BN 3PN B2 | 1/3/36 |
| 3 A | 3+N | B | 100062 | Ex9BN 3PN B3 | 1/3/36 |
| 4 A | 3+N | B | 100063 | Ex9BN 3PN B4 | 1/3/36 |
| 6 A | 3+N | B | 100064 | Ex9BN 3PN B6 | 1/3/36 |
| 8 A | 3+N | B | 100065 | Ex9BN 3PN B8 | 1/3/36 |
| 10 A | 3+N | B | 100066 | Ex9BN 3PN B10 | 1/3/36 |
| 13 A | 3+N | B | 100067 | Ex9BN 3PN B13 | 1/3/36 |
| 16 A | 3+N | B | 100068 | Ex9BN 3PN B16 | 1/3/36 |
| 20 A | 3+N | B | 100069 | Ex9BN 3PN B20 | 1/3/36 |
| 25 A | 3+N | B | 100070 | Ex9BN 3PN B25 | 1/3/36 |
| 32 A | 3+N | B | 100071 | Ex9BN 3PN B32 | 1/3/36 |
| 40 A | 3+N | B | 100072 | Ex9BN 3PN B40 | 1/3/36 |
| 50 A | 3+N | B | 100073 | Ex9BN 3PN B50 | 1/3/36 |
| 63 A | 3+N | B | 100074 | Ex9BN 3PN B63 | 1/3/36 |

## B-Characteristic, 4-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 4 | B | 100075 | Ex9BN 4P B1 | 1/3/36 |
| 2 A | 4 | B | 100076 | Ex9BN 4P B2 | 1/3/36 |
| 3 A | 4 | B | 100077 | Ex9BN 4P B3 | 1/3/36 |
| 4 A | 4 | B | 100078 | Ex9BN 4P B4 | 1/3/36 |
| 6 A | 4 | B | 100079 | Ex9BN 4P B6 | 1/3/36 |
| 8 A | 4 | B | 100080 | Ex9BN 4P B8 | 1/3/36 |
| 10 A | 4 | B | 100081 | Ex9BN 4P B10 | 1/3/36 |
| 13 A | 4 | B | 100082 | Ex9BN 4P B13 | 1/3/36 |
| 16 A | 4 | B | 100083 | Ex9BN 4P B16 | 1/3/36 |
| 20 A | 4 | B | 100084 | Ex9BN 4P B20 | 1/3/36 |
| 25 A | 4 | B | 100085 | Ex9BN 4P B25 | 1/3/36 |
| 32 A | 4 | B | 100086 | Ex9BN 4P B32 | 1/3/36 |
| 40 A | 4 | B | 100087 | Ex9BN 4P B40 | 1/3/36 |
| 50 A | 4 | B | 100088 | Ex9BN 4P B50 | 1/3/36 |
| 63 A | 4 | B | 100089 | Ex9BN 4P B63 | 1/3/36 |

# Miniature Circuit Breakers Ex9BN, 6 kA

## C-Characteristic, 1-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1 | C | 100090 | Ex9BN 1P C1 | 1/12/144 |
| 2 A | 1 | C | 100091 | Ex9BN 1P C2 | 1/12/144 |
| 3 A | 1 | C | 100092 | Ex9BN 1P C3 | 1/12/144 |
| 4 A | 1 | C | 100093 | Ex9BN 1P C4 | 1/12/144 |
| 6 A | 1 | C | 100094 | Ex9BN 1P C6 | 1/12/144 |
| 8 A | 1 | C | 100095 | Ex9BN 1P C8 | 1/12/144 |
| 10 A | 1 | C | 100096 | Ex9BN 1P C10 | 1/12/144 |
| 13 A | 1 | C | 100097 | Ex9BN 1P C13 | 1/12/144 |
| 16 A | 1 | C | 100098 | Ex9BN 1P C16 | 1/12/144 |
| 20 A | 1 | C | 100099 | Ex9BN 1P C20 | 1/12/144 |
| 25 A | 1 | C | 100100 | Ex9BN 1P C25 | 1/12/144 |
| 32 A | 1 | C | 100101 | Ex9BN 1P C32 | 1/12/144 |
| 40 A | 1 | C | 100102 | Ex9BN 1P C40 | 1/12/144 |
| 50 A | 1 | C | 100103 | Ex9BN 1P C50 | 1/12/144 |
| 63 A | 1 | C | 100104 | Ex9BN 1P C63 | 1/12/144 |

## C-Characteristic, 1+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1+N | C | 100105 | Ex9BN 1PN C1 | 1/6/72 |
| 2 A | 1+N | C | 100106 | Ex9BN 1PN C2 | 1/6/72 |
| 3 A | 1+N | C | 100107 | Ex9BN 1PN C3 | 1/6/72 |
| 4 A | 1+N | C | 100108 | Ex9BN 1PN C4 | 1/6/72 |
| 6 A | 1+N | C | 100109 | Ex9BN 1PN C6 | 1/6/72 |
| 8 A | 1+N | C | 100110 | Ex9BN 1PN C8 | 1/6/72 |
| 10 A | 1+N | C | 100111 | Ex9BN 1PN C10 | 1/6/72 |
| 13 A | 1+N | C | 100112 | Ex9BN 1PN C13 | 1/6/72 |
| 16 A | 1+N | C | 100113 | Ex9BN 1PN C16 | 1/6/72 |
| 20 A | 1+N | C | 100114 | Ex9BN 1PN C20 | 1/6/72 |
| 25 A | 1+N | C | 100115 | Ex9BN 1PN C25 | 1/6/72 |
| 32 A | 1+N | C | 100116 | Ex9BN 1PN C32 | 1/6/72 |
| 40 A | 1+N | C | 100117 | Ex9BN 1PN C40 | 1/6/72 |
| 50 A | 1+N | C | 100118 | Ex9BN 1PN C50 | 1/6/72 |
| 63 A | 1+N | C | 100119 | Ex9BN 1PN C63 | 1/6/72 |

## C-Characteristic, 2-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 2 | C | 100120 | Ex9BN 2P C1 | 1/6/72 |
| 2 A | 2 | C | 100121 | Ex9BN 2P C2 | 1/6/72 |
| 3 A | 2 | C | 100122 | Ex9BN 2P C3 | 1/6/72 |
| 4 A | 2 | C | 100123 | Ex9BN 2P C4 | 1/6/72 |
| 6 A | 2 | C | 100124 | Ex9BN 2P C6 | 1/6/72 |
| 8 A | 2 | C | 100125 | Ex9BN 2P C8 | 1/6/72 |
| 10 A | 2 | C | 100126 | Ex9BN 2P C10 | 1/6/72 |
| 13 A | 2 | C | 100127 | Ex9BN 2P C13 | 1/6/72 |
| 16 A | 2 | C | 100128 | Ex9BN 2P C16 | 1/6/72 |
| 20 A | 2 | C | 100129 | Ex9BN 2P C20 | 1/6/72 |
| 25 A | 2 | C | 100130 | Ex9BN 2P C25 | 1/6/72 |
| 32 A | 2 | C | 100131 | Ex9BN 2P C32 | 1/6/72 |
| 40 A | 2 | C | 100132 | Ex9BN 2P C40 | 1/6/72 |
| 50 A | 2 | C | 100133 | Ex9BN 2P C50 | 1/6/72 |
| 63 A | 2 | C | 100134 | Ex9BN 2P C63 | 1/6/72 |

# Miniature Circuit Breakers Ex9BN, 6 kA

## C-Characteristic, 3-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3 | C | 100135 | Ex9BN 3P C1 | 1/4/48 |
| 2 A | 3 | C | 100136 | Ex9BN 3P C2 | 1/4/48 |
| 3 A | 3 | C | 100137 | Ex9BN 3P C3 | 1/4/48 |
| 4 A | 3 | C | 100138 | Ex9BN 3P C4 | 1/4/48 |
| 6 A | 3 | C | 100139 | Ex9BN 3P C6 | 1/4/48 |
| 8 A | 3 | C | 100140 | Ex9BN 3P C8 | 1/4/48 |
| 10 A | 3 | C | 100141 | Ex9BN 3P C10 | 1/4/48 |
| 13 A | 3 | C | 100142 | Ex9BN 3P C13 | 1/4/48 |
| 16 A | 3 | C | 100143 | Ex9BN 3P C16 | 1/4/48 |
| 20 A | 3 | C | 100144 | Ex9BN 3P C20 | 1/4/48 |
| 25 A | 3 | C | 100145 | Ex9BN 3P C25 | 1/4/48 |
| 32 A | 3 | C | 100146 | Ex9BN 3P C32 | 1/4/48 |
| 40 A | 3 | C | 100147 | Ex9BN 3P C40 | 1/4/48 |
| 50 A | 3 | C | 100148 | Ex9BN 3P C50 | 1/4/48 |
| 63 A | 3 | C | 100149 | Ex9BN 3P C63 | 1/4/48 |

## C-Characteristic, 3+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3+N | C | 100150 | Ex9BN 3PN C1 | 1/3/36 |
| 2 A | 3+N | C | 100151 | Ex9BN 3PN C2 | 1/3/36 |
| 3 A | 3+N | C | 100152 | Ex9BN 3PN C3 | 1/3/36 |
| 4 A | 3+N | C | 100153 | Ex9BN 3PN C4 | 1/3/36 |
| 6 A | 3+N | C | 100154 | Ex9BN 3PN C6 | 1/3/36 |
| 8 A | 3+N | C | 100155 | Ex9BN 3PN C8 | 1/3/36 |
| 10 A | 3+N | C | 100156 | Ex9BN 3PN C10 | 1/3/36 |
| 13 A | 3+N | C | 100157 | Ex9BN 3PN C13 | 1/3/36 |
| 16 A | 3+N | C | 100158 | Ex9BN 3PN C16 | 1/3/36 |
| 20 A | 3+N | C | 100159 | Ex9BN 3PN C20 | 1/3/36 |
| 25 A | 3+N | C | 100160 | Ex9BN 3PN C25 | 1/3/36 |
| 32 A | 3+N | C | 100161 | Ex9BN 3PN C32 | 1/3/36 |
| 40 A | 3+N | C | 100162 | Ex9BN 3PN C40 | 1/3/36 |
| 50 A | 3+N | C | 100163 | Ex9BN 3PN C50 | 1/3/36 |
| 63 A | 3+N | C | 100164 | Ex9BN 3PN C63 | 1/3/36 |

## C-Characteristic, 4-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 4 | C | 100165 | Ex9BN 4P C1 | 1/3/36 |
| 2 A | 4 | C | 100166 | Ex9BN 4P C2 | 1/3/36 |
| 3 A | 4 | C | 100167 | Ex9BN 4P C3 | 1/3/36 |
| 4 A | 4 | C | 100168 | Ex9BN 4P C4 | 1/3/36 |
| 6 A | 4 | C | 100169 | Ex9BN 4P C6 | 1/3/36 |
| 8 A | 4 | C | 100170 | Ex9BN 4P C8 | 1/3/36 |
| 10 A | 4 | C | 100171 | Ex9BN 4P C10 | 1/3/36 |
| 13 A | 4 | C | 100172 | Ex9BN 4P C13 | 1/3/36 |
| 16 A | 4 | C | 100173 | Ex9BN 4P C16 | 1/3/36 |
| 20 A | 4 | C | 100174 | Ex9BN 4P C20 | 1/3/36 |
| 25 A | 4 | C | 100175 | Ex9BN 4P C25 | 1/3/36 |
| 32 A | 4 | C | 100176 | Ex9BN 4P C32 | 1/3/36 |
| 40 A | 4 | C | 100177 | Ex9BN 4P C40 | 1/3/36 |
| 50 A | 4 | C | 100178 | Ex9BN 4P C50 | 1/3/36 |
| 63 A | 4 | C | 100179 | Ex9BN 4P C63 | 1/3/36 |

# Miniature Circuit Breakers Ex9BN, 6 kA

## D-Characteristic, 1-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1 | D | 100180 | Ex9BN 1P D1 | 1/12/144 |
| 2 A | 1 | D | 100181 | Ex9BN 1P D2 | 1/12/144 |
| 3 A | 1 | D | 100182 | Ex9BN 1P D3 | 1/12/144 |
| 4 A | 1 | D | 100183 | Ex9BN 1P D4 | 1/12/144 |
| 6 A | 1 | D | 100184 | Ex9BN 1P D6 | 1/12/144 |
| 8 A | 1 | D | 100185 | Ex9BN 1P D8 | 1/12/144 |
| 10 A | 1 | D | 100186 | Ex9BN 1P D10 | 1/12/144 |
| 13 A | 1 | D | 100187 | Ex9BN 1P D13 | 1/12/144 |
| 16 A | 1 | D | 100188 | Ex9BN 1P D16 | 1/12/144 |
| 20 A | 1 | D | 100189 | Ex9BN 1P D20 | 1/12/144 |
| 25 A | 1 | D | 100190 | Ex9BN 1P D25 | 1/12/144 |
| 32 A | 1 | D | 100191 | Ex9BN 1P D32 | 1/12/144 |
| 40 A | 1 | D | 100192 | Ex9BN 1P D40 | 1/12/144 |
| 50 A | 1 | D | 100193 | Ex9BN 1P D50 | 1/12/144 |
| 63 A | 1 | D | 100194 | Ex9BN 1P D63 | 1/12/144 |

## D-Characteristic, 1+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 1+N | D | 100195 | Ex9BN 1PN D1 | 1/6/72 |
| 2 A | 1+N | D | 100196 | Ex9BN 1PN D2 | 1/6/72 |
| 3 A | 1+N | D | 100197 | Ex9BN 1PN D3 | 1/6/72 |
| 4 A | 1+N | D | 100198 | Ex9BN 1PN D4 | 1/6/72 |
| 6 A | 1+N | D | 100199 | Ex9BN 1PN D6 | 1/6/72 |
| 8 A | 1+N | D | 100200 | Ex9BN 1PN D8 | 1/6/72 |
| 10 A | 1+N | D | 100201 | Ex9BN 1PN D10 | 1/6/72 |
| 13 A | 1+N | D | 100202 | Ex9BN 1PN D13 | 1/6/72 |
| 16 A | 1+N | D | 100203 | Ex9BN 1PN D16 | 1/6/72 |
| 20 A | 1+N | D | 100204 | Ex9BN 1PN D20 | 1/6/72 |
| 25 A | 1+N | D | 100205 | Ex9BN 1PN D25 | 1/6/72 |
| 32 A | 1+N | D | 100206 | Ex9BN 1PN D32 | 1/6/72 |
| 40 A | 1+N | D | 100207 | Ex9BN 1PN D40 | 1/6/72 |
| 50 A | 1+N | D | 100208 | Ex9BN 1PN D50 | 1/6/72 |
| 63 A | 1+N | D | 100209 | Ex9BN 1PN D63 | 1/6/72 |

## D-Characteristic, 2-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 2 | D | 100210 | Ex9BN 2P D1 | 1/6/72 |
| 2 A | 2 | D | 100211 | Ex9BN 2P D2 | 1/6/72 |
| 3 A | 2 | D | 100212 | Ex9BN 2P D3 | 1/6/72 |
| 4 A | 2 | D | 100213 | Ex9BN 2P D4 | 1/6/72 |
| 6 A | 2 | D | 100214 | Ex9BN 2P D6 | 1/6/72 |
| 8 A | 2 | D | 100215 | Ex9BN 2P D8 | 1/6/72 |
| 10 A | 2 | D | 100216 | Ex9BN 2P D10 | 1/6/72 |
| 13 A | 2 | D | 100217 | Ex9BN 2P D13 | 1/6/72 |
| 16 A | 2 | D | 100218 | Ex9BN 2P D16 | 1/6/72 |
| 20 A | 2 | D | 100219 | Ex9BN 2P D20 | 1/6/72 |
| 25 A | 2 | D | 100220 | Ex9BN 2P D25 | 1/6/72 |
| 32 A | 2 | D | 100221 | Ex9BN 2P D32 | 1/6/72 |
| 40 A | 2 | D | 100222 | Ex9BN 2P D40 | 1/6/72 |
| 50 A | 2 | D | 100223 | Ex9BN 2P D50 | 1/6/72 |
| 63 A | 2 | D | 100224 | Ex9BN 2P D63 | 1/6/72 |

# Miniature Circuit Breakers Ex9BN, 6 kA

## D-Characteristic, 3-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3 | D | 100225 | Ex9BN 3P D1 | 1/4/48 |
| 2 A | 3 | D | 100226 | Ex9BN 3P D2 | 1/4/48 |
| 3 A | 3 | D | 100227 | Ex9BN 3P D3 | 1/4/48 |
| 4 A | 3 | D | 100228 | Ex9BN 3P D4 | 1/4/48 |
| 6 A | 3 | D | 100229 | Ex9BN 3P D6 | 1/4/48 |
| 8 A | 3 | D | 100230 | Ex9BN 3P D8 | 1/4/48 |
| 10 A | 3 | D | 100231 | Ex9BN 3P D10 | 1/4/48 |
| 13 A | 3 | D | 100232 | Ex9BN 3P D13 | 1/4/48 |
| 16 A | 3 | D | 100233 | Ex9BN 3P D16 | 1/4/48 |
| 20 A | 3 | D | 100234 | Ex9BN 3P D20 | 1/4/48 |
| 25 A | 3 | D | 100235 | Ex9BN 3P D25 | 1/4/48 |
| 32 A | 3 | D | 100236 | Ex9BN 3P D32 | 1/4/48 |
| 40 A | 3 | D | 100237 | Ex9BN 3P D40 | 1/4/48 |
| 50 A | 3 | D | 100238 | Ex9BN 3P D50 | 1/4/48 |
| 63 A | 3 | D | 100239 | Ex9BN 3P D63 | 1/4/48 |

## D-Characteristic, 3+N-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 3+N | D | 100240 | Ex9BN 3PN D1 | 1/3/36 |
| 2 A | 3+N | D | 100241 | Ex9BN 3PN D2 | 1/3/36 |
| 3 A | 3+N | D | 100242 | Ex9BN 3PN D3 | 1/3/36 |
| 4 A | 3+N | D | 100243 | Ex9BN 3PN D4 | 1/3/36 |
| 6 A | 3+N | D | 100244 | Ex9BN 3PN D6 | 1/3/36 |
| 8 A | 3+N | D | 100245 | Ex9BN 3PN D8 | 1/3/36 |
| 10 A | 3+N | D | 100246 | Ex9BN 3PN D10 | 1/3/36 |
| 13 A | 3+N | D | 100247 | Ex9BN 3PN D13 | 1/3/36 |
| 16 A | 3+N | D | 100248 | Ex9BN 3PN D16 | 1/3/36 |
| 20 A | 3+N | D | 100249 | Ex9BN 3PN D20 | 1/3/36 |
| 25 A | 3+N | D | 100250 | Ex9BN 3PN D25 | 1/3/36 |
| 32 A | 3+N | D | 100251 | Ex9BN 3PN D32 | 1/3/36 |
| 40 A | 3+N | D | 100252 | Ex9BN 3PN D40 | 1/3/36 |
| 50 A | 3+N | D | 100253 | Ex9BN 3PN D50 | 1/3/36 |
| 63 A | 3+N | D | 100254 | Ex9BN 3PN D63 | 1/3/36 |

## D-Characteristic, 4-pole

| Rated current | Poles | Char. | Article No. | Type | Packing |
|---|---|---|---|---|---|
| 1 A | 4 | D | 100255 | Ex9BN 4P D1 | 1/3/36 |
| 2 A | 4 | D | 100256 | Ex9BN 4P D2 | 1/3/36 |
| 3 A | 4 | D | 100257 | Ex9BN 4P D3 | 1/3/36 |
| 4 A | 4 | D | 100258 | Ex9BN 4P D4 | 1/3/36 |
| 6 A | 4 | D | 100259 | Ex9BN 4P D6 | 1/3/36 |
| 8 A | 4 | D | 100260 | Ex9BN 4P D8 | 1/3/36 |
| 10 A | 4 | D | 100261 | Ex9BN 4P D10 | 1/3/36 |
| 13 A | 4 | D | 100262 | Ex9BN 4P D13 | 1/3/36 |
| 16 A | 4 | D | 100263 | Ex9BN 4P D16 | 1/3/36 |
| 20 A | 4 | D | 100264 | Ex9BN 4P D20 | 1/3/36 |
| 25 A | 4 | D | 100265 | Ex9BN 4P D25 | 1/3/36 |
| 32 A | 4 | D | 100266 | Ex9BN 4P D32 | 1/3/36 |
| 40 A | 4 | D | 100267 | Ex9BN 4P D40 | 1/3/36 |
| 50 A | 4 | D | 100268 | Ex9BN 4P D50 | 1/3/36 |
| 63 A | 4 | D | 100269 | Ex9BN 4P D63 | 1/3/36 |

# Technical Data Ex9BN

**Miniature Circuit Breakers, 6 kA**

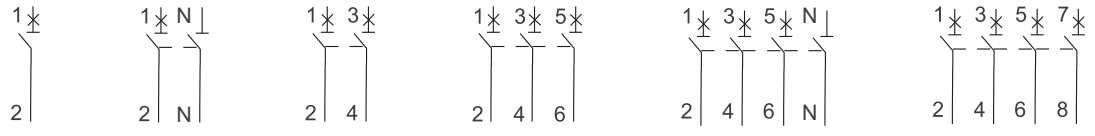
## General parameters

| | | |
|---|---|---|
| Very high limiting of short circuit current | | |
| Suitable for household as well as industrial applications | | |
| Accessories | | |
| Auxiliary contacts | AX3111, AX3122 | 100540, 100542 |
| Alarm contact | AL3111 | 100541 |
| Auxiliary and alarm contact | AXL31 | 100543 |
| Shunt trip releases | SHT31, SHT3111 | 100544-100546, 100547-100549 |
| Undervoltage releases | UVT31, UVT3101, UVT3110 | 100550-100551, 100552-100553, 100554-100555 |
| Overvoltage release | OVT31 280V AC±5% | 100556 |
| Max. number of installed accessories is 3 pcs of one contact units (AX3111, AL3111) or 2 pcs of two contact units (AX3122, AXL31) and 2 pcs of releases (SHT31, UVT31, OVT31) | | |
| RCD add-on blocks | Ex9LE | |

## Electrical parameters

| | |
|---|---|
| Tested according to | IEC/EN 60898-1, IEC/EN 60947-2 (partially) |
| Rated op. voltage $U_e$ | 240/415 V AC |
| | 72 V DC per pole (1P, 2P), 48 V DC per pole (3P, 4P) |
| Minimum voltage | 12 V AC/DC |
| Rated impulse withstand voltage $U_{imp}$ according IEC 60898-1 | 6 kV |
| Rated impulse withstand voltage $U_{imp}$ according IEC 60947-2 | 6 kV |
| Rated insulation voltage $U_i$ | 690 V AC |
| Rated frequency | 50/60 Hz |
| Rated breaking capacity $I_{cn}$ according IEC 60898-1 | 6 kA |
| Rated breaking capacity $I_{cn}$ according IEC 60947-2 | 10kA |
| Rated current | 1 — 63 A |
| Tripping characteristics | B, C, D |
| Mechanical service life | 20 000 operation cycles |
| Electrical service life | 10 000 operation cycles |
| Selectivity class | 3 |
| Utilization category | A |
| Max. back-up fuse | max. 125 A gG |
| Line voltage connection | arbitrary above or below |

## Wiring diagrams



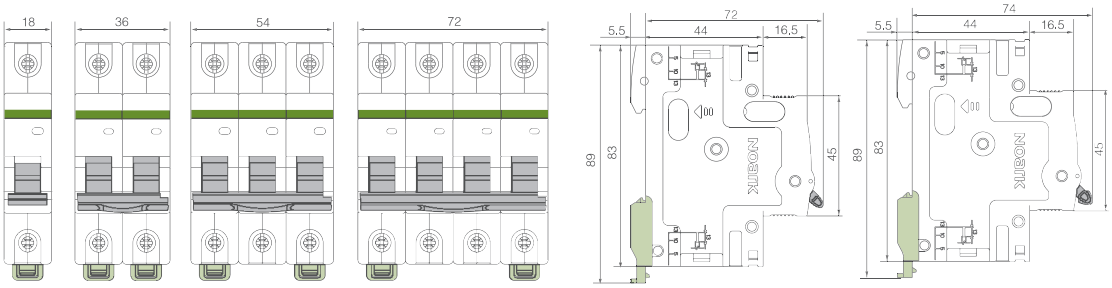
# Technical Data Ex9BN

**Miniature Circuit Breakers, 6 kA**

## Mechanical parameters

| | |
|---|---|
| Device width | 18 mm (per pole) |
| Device height | 83 mm (89 mm including rail clip) |
| Frame size | 45 mm |
| Mounting | easy fastening onto 35 mm device rail (DIN) |
| Degree of protection | IP20 |
| Terminals | combined lift + open mouthed |
| Terminal capacity | 1 — 35 $mm^2$ |
| Fastening torque of terminals | 2 — 3.5 Nm |
| Busbar thickness | 0.8 — 2 mm |
| Ambient temperature | -30 — +70 °C |
| Altitude | ≤ 2000 m |
| Relative humidity | ≤ 95 % |
| Resistance to humidity and heat | class 2 |
| Pollution degree | 3 |
| Installation class | III |
| Weight | 0.12 kg (per pole) |

## Dimensions

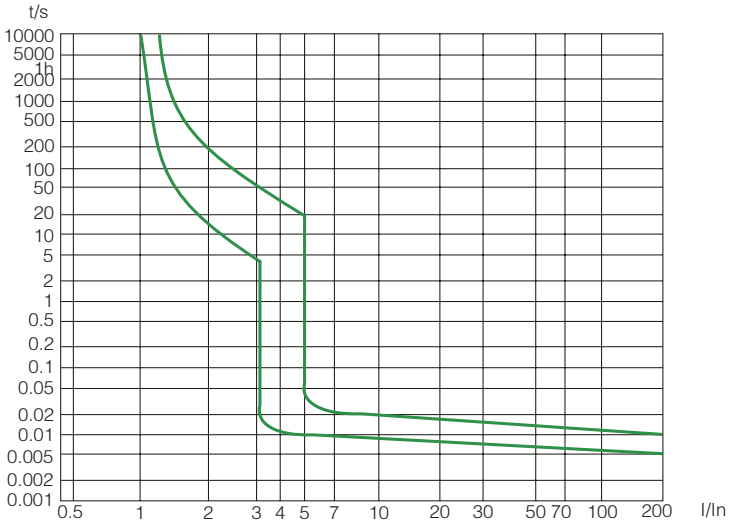


# Technical Data Ex9BN

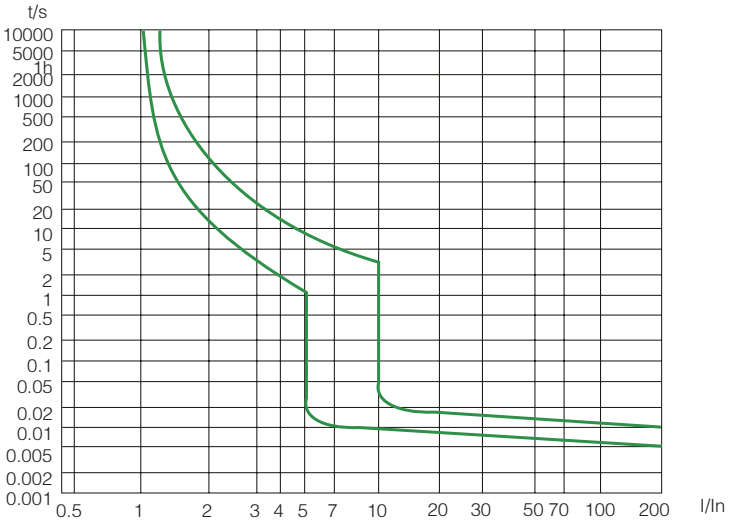
**Miniature Circuit Breakers, 6 kA**

## Tripping characteristics

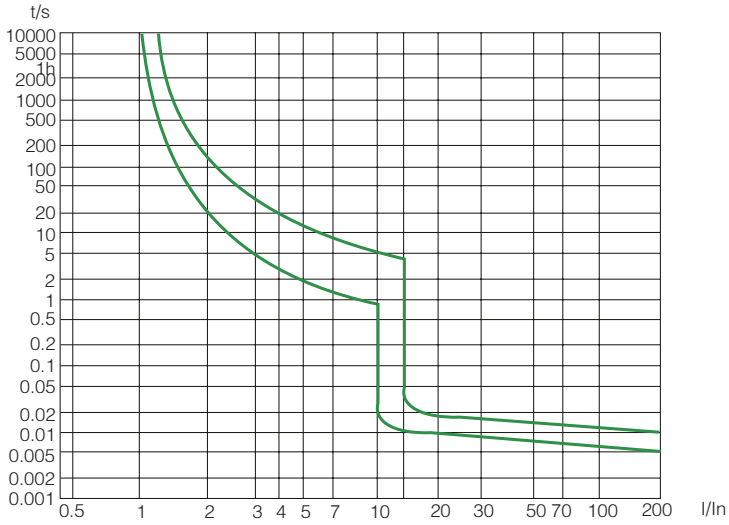
### Characteristic B




### Characteristic C




### Characteristic D



# Technical Data Ex9BN

**Miniature Circuit Breakers, 6 kA**

## Dependence of Tripping Characteristics on Ambient Temperature

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

## Power loss per pole

| $I_n$ [A] | 1 A | 2 A | 3 A | 4 A | 6 A | 8 A | 10 A | 13 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P [W] | 1.8 | 2.1 | 1.9 | 2.0 | 2.5 | 1.2 | 1.8 | 3.1 | 2.3 | 2.4 | 3.5 | 3.8 | 4.7 | 4.7 | 6.2 |