

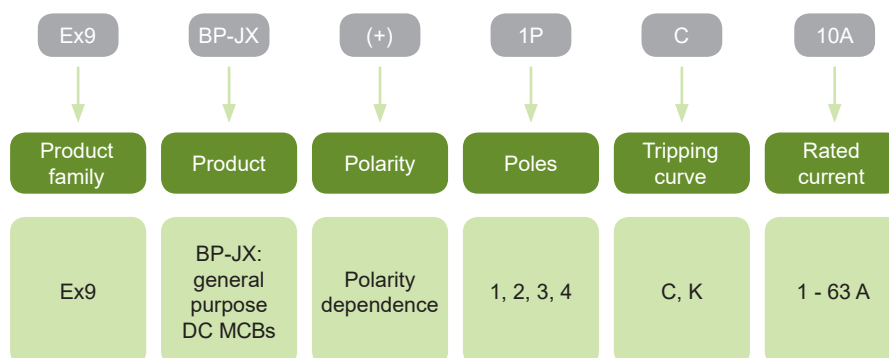
# DC Miniature Circuit Breakers Ex9BP-JX



- General purpose Direct Current (DC) Miniature Circuit Breakers
- Tested according to EN 60947-2
- Rated operating voltage 250 V DC per pole
- Rated current up to 63 A
- Rated short circuit breaking capacity 10 kA
- 1 to 4 pole versions
- Tripping characteristics C, K
- Wide range of accessories

General purpose DC Miniature Circuit Breakers Ex9BP-JX are designed for general direct current applications. Due to their polarity dependence it is necessary to respect the polarity of the current.

## Type Key



## Certification marks



# DC Miniature Circuit Breakers Ex9BP-JX

## Accessories



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

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

Miniature Circuit Breaker  
**Ex9BP-JX**  
1, 2, 3, 4-module width

Auxiliary contacts AX3111, AX3122

Alarm contact AL3111

Auxiliary and alarm contact AXL31

Shunt trip releases SHT31, SHT3111

Undervoltage releases UVT31, UVT3101, UVT3110

All accessories are mounted to the MCBs Ex9BP-JX from the left side and are identical for devices of the line Ex9B, Ex9PN and Ex9IP.

# DC Miniature Circuit Breakers Ex9BP-JX

## C-Characteristic, 1-pole, 250 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	1 MU	C	110067	Ex9BP-JX(+) 1P C1	1/12/144
2 A	1 MU	C	110068	Ex9BP-JX(+) 1P C2	1/12/144
3 A	1 MU	C	110069	Ex9BP-JX(+) 1P C3	1/12/144
4 A	1 MU	C	110070	Ex9BP-JX(+) 1P C4	1/12/144
6 A	1 MU	C	110071	Ex9BP-JX(+) 1P C6	1/12/144
10 A	1 MU	C	110072	Ex9BP-JX(+) 1P C10	1/12/144
16 A	1 MU	C	110073	Ex9BP-JX(+) 1P C16	1/12/144
20 A	1 MU	C	110074	Ex9BP-JX(+) 1P C20	1/12/144
25 A	1 MU	C	110075	Ex9BP-JX(+) 1P C25	1/12/144
32 A	1 MU	C	110076	Ex9BP-JX(+) 1P C32	1/12/144
40 A	1 MU	C	110077	Ex9BP-JX(+) 1P C40	1/12/144
50 A	1 MU	C	110078	Ex9BP-JX(+) 1P C50	1/12/144
63 A	1 MU	C	110079	Ex9BP-JX(+) 1P C63	1/12/144

## C-Characteristic, 2-pole, 500 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	2 MU	C	110080	Ex9BP-JX(+) 2P C1	1/6/72
2 A	2 MU	C	110081	Ex9BP-JX(+) 2P C2	1/6/72
3 A	2 MU	C	110082	Ex9BP-JX(+) 2P C3	1/6/72
4 A	2 MU	C	110083	Ex9BP-JX(+) 2P C4	1/6/72
6 A	2 MU	C	110084	Ex9BP-JX(+) 2P C6	1/6/72
10 A	2 MU	C	110085	Ex9BP-JX(+) 2P C10	1/6/72
16 A	2 MU	C	110086	Ex9BP-JX(+) 2P C16	1/6/72
20 A	2 MU	C	110087	Ex9BP-JX(+) 2P C20	1/6/72
25 A	2 MU	C	110088	Ex9BP-JX(+) 2P C25	1/6/72
32 A	2 MU	C	110089	Ex9BP-JX(+) 2P C32	1/6/72
40 A	2 MU	C	110090	Ex9BP-JX(+) 2P C40	1/6/72
50 A	2 MU	C	110091	Ex9BP-JX(+) 2P C50	1/6/72
63 A	2 MU	C	110092	Ex9BP-JX(+) 2P C63	1/6/72

## C-Characteristic, 3-pole, 750 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	3 MU	C	110093	Ex9BP-JX(+) 3P C1	1/4/48
2 A	3 MU	C	110094	Ex9BP-JX(+) 3P C2	1/4/48
3 A	3 MU	C	110095	Ex9BP-JX(+) 3P C3	1/4/48
4 A	3 MU	C	110096	Ex9BP-JX(+) 3P C4	1/4/48
6 A	3 MU	C	110097	Ex9BP-JX(+) 3P C6	1/4/48
10 A	3 MU	C	110098	Ex9BP-JX(+) 3P C10	1/4/48
16 A	3 MU	C	110099	Ex9BP-JX(+) 3P C16	1/4/48
20 A	3 MU	C	110100	Ex9BP-JX(+) 3P C20	1/4/48
25 A	3 MU	C	110101	Ex9BP-JX(+) 3P C25	1/4/48
32 A	3 MU	C	110102	Ex9BP-JX(+) 3P C32	1/4/48
40 A	3 MU	C	110103	Ex9BP-JX(+) 3P C40	1/4/48
50 A	3 MU	C	110104	Ex9BP-JX(+) 3P C50	1/4/48
63 A	3 MU	C	110105	Ex9BP-JX(+) 3P C63	1/4/48

# DC Miniature Circuit Breakers Ex9BP-JX

## C-Characteristic, 4-pole, 1000 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	4 MU	C	110106	Ex9BP-JX(+) 4P C1	1/3/36
2 A	4 MU	C	110107	Ex9BP-JX(+) 4P C2	1/3/36
3 A	4 MU	C	110108	Ex9BP-JX(+) 4P C3	1/3/36
4 A	4 MU	C	110109	Ex9BP-JX(+) 4P C4	1/3/36
6 A	4 MU	C	110110	Ex9BP-JX(+) 4P C6	1/3/36
10 A	4 MU	C	110111	Ex9BP-JX(+) 4P C10	1/3/36
16 A	4 MU	C	110112	Ex9BP-JX(+) 4P C16	1/3/36
20 A	4 MU	C	110113	Ex9BP-JX(+) 4P C20	1/3/36
25 A	4 MU	C	110114	Ex9BP-JX(+) 4P C25	1/3/36
32 A	4 MU	C	110115	Ex9BP-JX(+) 4P C32	1/3/36
40 A	4 MU	C	110116	Ex9BP-JX(+) 4P C40	1/3/36
50 A	4 MU	C	110117	Ex9BP-JX(+) 4P C50	1/3/36
63 A	4 MU	C	110118	Ex9BP-JX(+) 4P C63	1/3/36

# DC Miniature Circuit Breakers Ex9BP-JX

## K-Characteristic, 1-pole, 250 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	1 MU	K	110119	Ex9BP-JX(+) 1P K1	1/12/144
2 A	1 MU	K	110120	Ex9BP-JX(+) 1P K2	1/12/144
3 A	1 MU	K	110121	Ex9BP-JX(+) 1P K3	1/12/144
4 A	1 MU	K	110122	Ex9BP-JX(+) 1P K4	1/12/144
6 A	1 MU	K	110123	Ex9BP-JX(+) 1P K6	1/12/144
10 A	1 MU	K	110124	Ex9BP-JX(+) 1P K10	1/12/144
16 A	1 MU	K	110125	Ex9BP-JX(+) 1P K16	1/12/144
20 A	1 MU	K	110126	Ex9BP-JX(+) 1P K20	1/12/144
25 A	1 MU	K	110127	Ex9BP-JX(+) 1P K25	1/12/144
32 A	1 MU	K	110128	Ex9BP-JX(+) 1P K32	1/12/144
40 A	1 MU	K	110129	Ex9BP-JX(+) 1P K40	1/12/144
50 A	1 MU	K	110130	Ex9BP-JX(+) 1P K50	1/12/144
63 A	1 MU	K	110131	Ex9BP-JX(+) 1P K63	1/12/144

## K-Characteristic, 2-pole, 500 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	2 MU	K	110132	Ex9BP-JX(+) 2P K1	1/6/72
2 A	2 MU	K	110133	Ex9BP-JX(+) 2P K2	1/6/72
3 A	2 MU	K	110134	Ex9BP-JX(+) 2P K3	1/6/72
4 A	2 MU	K	110135	Ex9BP-JX(+) 2P K4	1/6/72
6 A	2 MU	K	110136	Ex9BP-JX(+) 2P K6	1/6/72
10 A	2 MU	K	110137	Ex9BP-JX(+) 2P K10	1/6/72
16 A	2 MU	K	110138	Ex9BP-JX(+) 2P K16	1/6/72
20 A	2 MU	K	110139	Ex9BP-JX(+) 2P K20	1/6/72
25 A	2 MU	K	110140	Ex9BP-JX(+) 2P K25	1/6/72
32 A	2 MU	K	110141	Ex9BP-JX(+) 2P K32	1/6/72
40 A	2 MU	K	110142	Ex9BP-JX(+) 2P K40	1/6/72
50 A	2 MU	K	110143	Ex9BP-JX(+) 2P K50	1/6/72
63 A	2 MU	K	110144	Ex9BP-JX(+) 2P K63	1/6/72

## K-Characteristic, 3-pole, 750 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	3 MU	K	110145	Ex9BP-JX(+) 3P K1	1/4/48
2 A	3 MU	K	110146	Ex9BP-JX(+) 3P K2	1/4/48
3 A	3 MU	K	110147	Ex9BP-JX(+) 3P K3	1/4/48
4 A	3 MU	K	110148	Ex9BP-JX(+) 3P K4	1/4/48
6 A	3 MU	K	110149	Ex9BP-JX(+) 3P K6	1/4/48
10 A	3 MU	K	110150	Ex9BP-JX(+) 3P K10	1/4/48
16 A	3 MU	K	110151	Ex9BP-JX(+) 3P K16	1/4/48
20 A	3 MU	K	110152	Ex9BP-JX(+) 3P K20	1/4/48
25 A	3 MU	K	110153	Ex9BP-JX(+) 3P K25	1/4/48
32 A	3 MU	K	110154	Ex9BP-JX(+) 3P K32	1/4/48
40 A	3 MU	K	110155	Ex9BP-JX(+) 3P K40	1/4/48
50 A	3 MU	K	110156	Ex9BP-JX(+) 3P K50	1/4/48
63 A	3 MU	K	110157	Ex9BP-JX(+) 3P K63	1/4/48

# DC Miniature Circuit Breakers Ex9BP-JX

K-Characteristic, 4-pole, 1000 V DC



Rated current	Width	Char.	Article No.	Type	Packing
1 A	4 MU	K	110158	Ex9BP-JX(+) 4P K1	1/3/36
2 A	4 MU	K	110159	Ex9BP-JX(+) 4P K2	1/3/36
3 A	4 MU	K	110160	Ex9BP-JX(+) 4P K3	1/3/36
4 A	4 MU	K	110161	Ex9BP-JX(+) 4P K4	1/3/36
6 A	4 MU	K	110162	Ex9BP-JX(+) 4P K6	1/3/36
10 A	4 MU	K	110163	Ex9BP-JX(+) 4P K10	1/3/36
16 A	4 MU	K	110164	Ex9BP-JX(+) 4P K16	1/3/36
20 A	4 MU	K	110165	Ex9BP-JX(+) 4P K20	1/3/36
25 A	4 MU	K	110166	Ex9BP-JX(+) 4P K25	1/3/36
32 A	4 MU	K	110167	Ex9BP-JX(+) 4P K32	1/3/36
40 A	4 MU	K	110168	Ex9BP-JX(+) 4P K40	1/3/36
50 A	4 MU	K	110169	Ex9BP-JX(+) 4P K50	1/3/36
63 A	4 MU	K	110170	Ex9BP-JX(+) 4P K63	1/3/36

# Technical Data Ex9BP-JX

## General purpose DC Miniature Circuit Breakers Ex9BP-JX

### General parameters

For general direct current applications

Polarity dependent - it is necessary to respect the polarity of the current

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
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)		

### Electrical parameters

Tested according to	EN 60947-2
Rated op. voltage $U_e$	250 (1P), 500 (2P), 750 (3P), 1000 (4P) V DC
Rated ultimate breaking capacity $I_{cu}$	10 kA
Rated service breaking capacity $I_{cs}$	100% $I_{cu}$
Rated current $I_n$	1 — 63 A
Tripping characteristics	C, K
Rated impulse withstand voltage $U_{imp}$	4 kV
Rated insulation voltage $U_i$	1 000 V DC
Mechanical service life	20 000 operation cycles
Electrical service life	2 500 operation cycles
Selectivity class	3
Line voltage connection	necessary to follow marked polarity

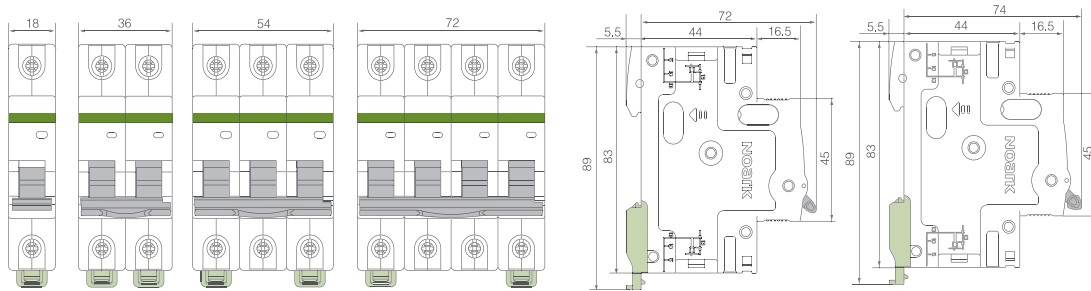
### Mechanical parameters

Device width	18 mm (per pole/module)
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 <sup>2</sup>
Fastening torque of terminals	2 — 3.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-35 — +70 °C
Altitude	≤ 2 000 m
Relative humidity	≤ 95 % at 20°C, ≤ 50 % at 40°C
Resistance to humidity and heat	class 2
Pollution degree	3
Installation class	III
Weight	0.12 kg (per pole/module)

# Technical Data Ex9BP-JX

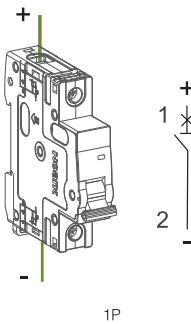
## General purpose DC Miniature Circuit Breakers Ex9BP-JX

### Dimensions



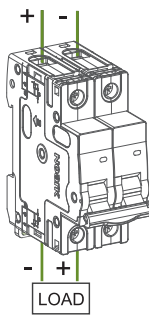
### Wiring diagrams

DC 250V

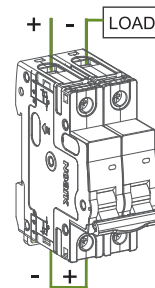


1P

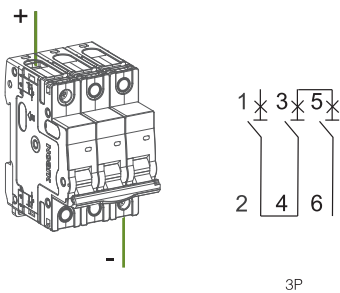
DC 500V



2P

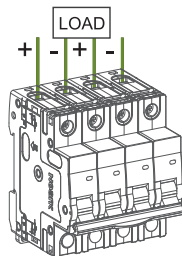


DC 750V

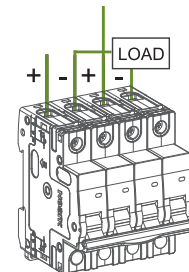


3P

DC 1000V

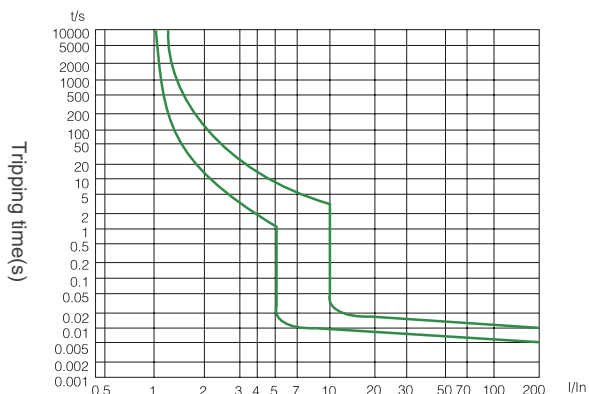


4P

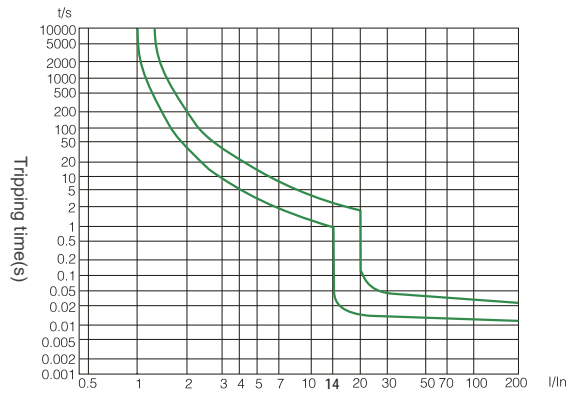


### Tripping characteristics

Characteristic C



Characteristic K





# Technical Data Ex9BP-JX

## General purpose DC Miniature Circuit Breakers Ex9BP-JX

### Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I <sub>n</sub> [A]												
	1 A	2 A	3 A	4 A	6 A	10 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	13.6	20.5	25.3	31.1	40.5	51	64	82
-25	1.2	2.4	3.7	4.9	7.4	13.4	20	25	30.5	39.8	50	63	80.7
-20	1.2	2.4	3.6	4.8	7.3	13.1	19.8	24.5	30	39.2	49.2	62	79.2
-15	1.2	2.4	3.5	4.8	7.2	12.8	19.4	24	29.5	38.5	48.4	60.8	77.8
-10	1.2	2.3	3.5	4.7	7.1	12.5	19	23.7	29	37.9	47.5	59.8	76.3
-5	1.2	2.3	3.4	4.7	7	12.3	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	12	18.4	22.8	28	36.5	45.8	57.4	73.2
5	1.1	2.2	3.3	4.4	6.6	11.7	18	22.4	27.5	35.8	45	56.3	71.6
10	1.1	2.1	3.3	4.3	6.5	11.4	17.6	21.9	27	35	44	55	70
15	1.1	2.1	3.2	4.3	6.4	11	17.2	21.5	26.5	34.3	43	53.8	68.3
20	1	2.1	3.2	4.2	6.3	10.7	16.8	21	26	33.6	42	52.6	66.6
25	1	2	3	4.1	6.2	10.4	16.4	20.5	25.5	32.8	41	51.3	64.8
30	1	2	3	4	6	10	16	20	25	32	40	50	63
35	0.99	2	3	3.9	5.9	9.9	16	20	25	32	39	49	62
40	0.97	1.9	2.9	3.9	5.8	9.7	15	19	24	31	39	48	61
45	0.95	1.9	2.8	3.8	5.7	9.5	15	19	24	30	38	47	60
50	0.93	1.9	2.8	3.7	5.6	9.3	15	19	23	30	37	46	58
55	0.91	1.8	2.8	3.6	5.5	9	14	18	23	29	36	44	57
60	0.91	1.8	2.7	3.5	5.4	8.8	14	18	22	28	35	42	55
65	0.91	1.8	2.7	3.5	5.3	8.6	13	17	21	28	34	40	52
70	0.91	1.8	2.7	3.5	5.3	8.6	13	17	21	27	33	38	50

### Power loss per pole

I <sub>n</sub> [A]	1 A	2 A	3 A	4 A	6 A	10 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P [W]	1.5	2.0	1.8	2.0	2.2	1.5	1.8	2.0	2.2	2.6	2.9	3.8	4.4