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

Ex9	BP-JX	(+)	1P	C	10A
Product family	Product	Polarity	Poles	Tripping curve	Rated current
Ex9	BP-JX: general purpose DC MCBs	Polarity dependence	1, 2, 3, 4	C, K	1 - 63 A

Certification marks

CE

Noark

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

Technical Data Ex9BP-JX

General purpose DC Miniature Circuit Breakers Ex9BP-JX

General parameters

For general direct current aplications		
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^2
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 20ºC, ≤ 50 % at 40ºC
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

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General purpose DC Miniature Circuit Breakers Ex9BP-JX

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n [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_n [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]**	1,8	2,1	1,9	2,0	2,5	1,8	3,1	3,1	3,9	3,9	4,7	4,7	6,2