

# Interruptor magnetotérmico DC Ex9BP

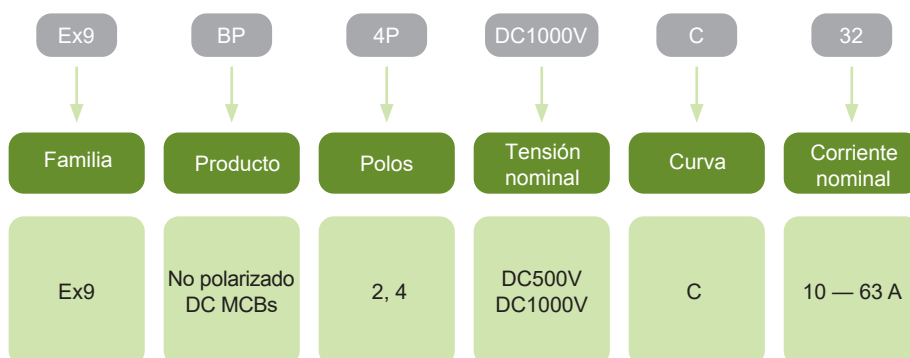


- Interruptor automático **magnetotérmico** DC para instalaciones fotovoltaicas
- No polarizado
- Norma EN 60947-2
- Poder de corte nominal  $I_{cu}$  6 kA
- Tensión nominal  $U_o$  de 500 Vdc y 1000 Vdc
- Anchura 2 y 4 módulos
- Curva C
- Corriente nominal hasta 63A
- **Amplia gama de accesorios**

DC miniature circuit breakers Ex9BP are designed for direct current applications. Thanks to their polarity independency are suitable for photovoltaic applications.

It can be combined with wide range of accessories including auxiliary and signal contacts, shunt trip release and undervoltage release. It is possible to create diversified 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.

## Guía de selección



Certificaciones:



# Interruptor magnetotérmico DC Ex9BP

## Accesorios



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

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

MCB: **Ex9BP**  
Anchura: 2 y 4 módulos

Contactos auxiliares AX31

Contacto de alarma AL3

Contacto auxiliar y de alarma AXL31

Bobina de emisión SHT31

Bobina de mínima tensión UVT31

Todos los accesorios se montan a la izquierda del interruptor.

# Interruptor magnetotérmico DC Ex9BP

## Curva C, 2 módulos, 500 Vdc



Corriente nominal	Anchura	Curva	Código	Referencia	Embalaje
10A	2M	C	111559	Ex9BP 2P DC500V C10	1/6/72
13A	2M	C	111560	Ex9BP 2P DC500V C13	1/6/72
16A	2M	C	111561	Ex9BP 2P DC500V C16	1/6/72
20A	2M	C	111562	Ex9BP 2P DC500V C20	1/6/72
25A	2M	C	111563	Ex9BP 2P DC500V C25	1/6/72
32A	2M	C	111564	Ex9BP 2P DC500V C32	1/6/72
40A	2M	C	111565	Ex9BP 2P DC500V C40	1/6/72
50A	2M	C	111566	Ex9BP 2P DC500V C50	1/6/72
63A	2M	C	111567	Ex9BP 2P DC500V C63	1/6/72

## Curva C, 4 módulos, 1000 Vdc



Corriente nominal	Anchura	Curva	Código	Referencia	Embalaje
10A	4MU	C	111568	Ex9BP 4P DC1000V C10	1/3/36
13A	4MU	C	111569	Ex9BP 4P DC1000V C13	1/3/36
16A	4MU	C	111570	Ex9BP 4P DC1000V C16	1/3/36
20A	4MU	C	111571	Ex9BP 4P DC1000V C20	1/3/36
25A	4MU	C	111572	Ex9BP 4P DC1000V C25	1/3/36
32A	4MU	C	111573	Ex9BP 4P DC1000V C32	1/3/36
40A	4MU	C	111574	Ex9BP 4P DC1000V C40	1/3/36
50A	4MU	C	111575	Ex9BP 4P DC1000V C50	1/3/36
63A	4MU	C	111576	Ex9BP 4P DC1000V C63	1/3/36

# Technical Data Ex9BP up to 1000 V DC

## DC Miniature Circuit Breakers up to 1000 V DC

### General parameters

Non-polarized, suitable for general DC as well as Photovoltaic 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
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	IEC/EN 60947-2
Rated operating voltage $U_e$	500 (2P), 1000 (4P) V DC
Poder de corte nominal $I_{cu}$	6 kA
Corriente nominal $I_n$	10 — 63 A
Tripping characteristics	C
Rated impulse withstand voltage $U_{imp}$	4 kV (2P), 6 kV (4P)
Rated insulation voltage $U_i$	1 000 V DC
Electrical service life	300 operation cycles
Line voltage connection	arbitrary above or below

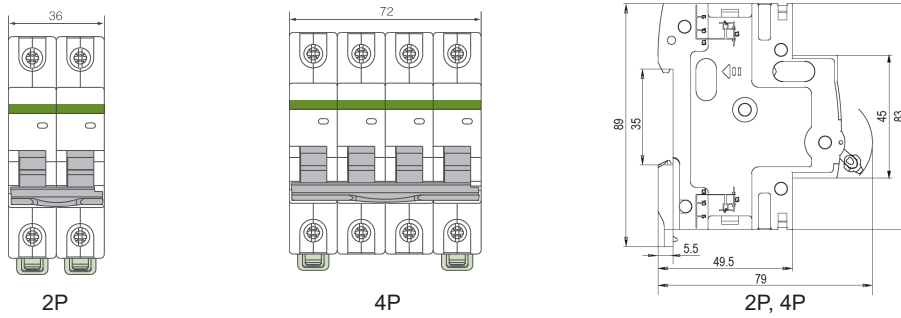
### Mechanical parameters

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
Terminals	combined lift + open mouthed
Terminal capacity	1 — 35 mm <sup>2</sup>
Fastening torque of terminals	3.5 Nm
Busbar thickness	0.8 — 2 mm
Mechanical service life	20 000 operation cycles
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)

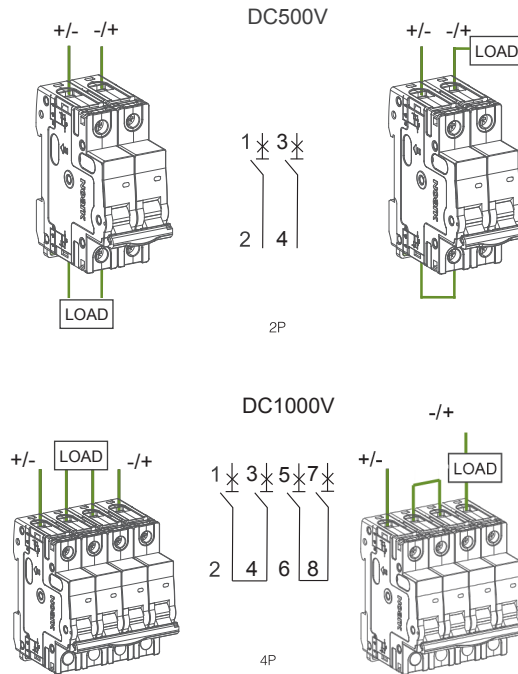
# Technical Data Ex9BP up to 1000 V DC

## DC Miniature Circuit Breakers up to 1000 V DC

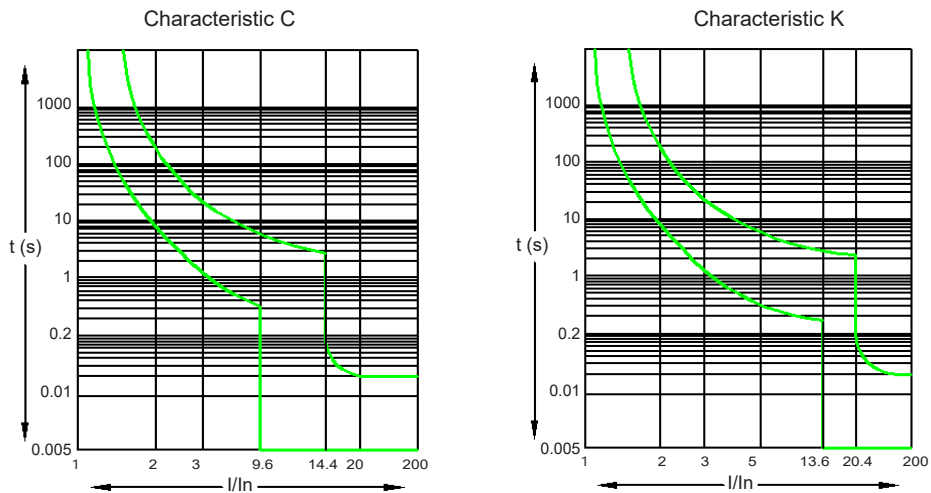
### Dimensions



### Wiring diagrams



### Tripping characteristics



# Technical Data Ex9BP up to 1000 V DC

## DC Miniature Circuit Breakers up to 1000 V DC

### Dependence of tripping characteristics on ambient temperature

T [°C]	I <sub>n</sub> (T) [A]								
	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
-20	13.5	16.3	20.0	24.5	29.8	39.5	50.5	60.0	77.5
-15	13.3	15.9	19.8	24.3	29.7	39.3	50.4	59.8	76.3
-10	13.0	15.7	19.5	24.0	29.5	39.0	50.2	59.5	75.0
-5	12.7	15.4	19.2	23.8	29.3	38.8	50.0	59.2	73.0
0	12.5	15	19.1	23.7	29.2	38.6	48.8	59.0	71.8
5	12.3	14.7	18.8	23.5	29.0	38.4	48.6	58.8	70.6
10	12.1	14.3	18.6	23.3	28.8	38.2	48.4	56.5	69.0
15	12.0	14	18.5	23.1	28.6	38.0	48.1	55.0	67.5
20	11.8	13.7	18.3	22.8	28.4	37.8	47.8	54.5	66.2
25	11.5	13.4	18.0	22.6	28.2	37.5	47.0	52.5	64.5
30	10	13	16	20	25	32	40	50	63
35	9.9	12.8	15.7	19.7	24.6	31.5	39.2	48.8	61.5
40	9.8	12.5	15.4	19.3	24.3	31.1	38.8	47.0	58.7
45	9.8	12.2	15.1	18.8	24.0	30.8	38.3	45.5	55.8
50	9.6	12	14.9	18.5	23.8	30.1	38.0	44.0	53.5
55	9.5	11.7	14.7	18.2	23.5	29.5	36.5	42.5	51.7
60	9.0	11.5	14.5	17.8	23.0	28.5	35.0	41.5	49.2
65	8.6	11.2	14.0	17.5	22.0	27.5	34.0	40.5	47.9
70	8.0	11	13.8	17.3	21.5	27.0	32.5	38.0	46.8

### Power loss per pole

I <sub>n</sub> [A]	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P [W]	1.8	3.1	3.1	3.1	3.9	3.9	4.7	4.7	6.2