

# Miniature Circuit Breakers Ex9B125

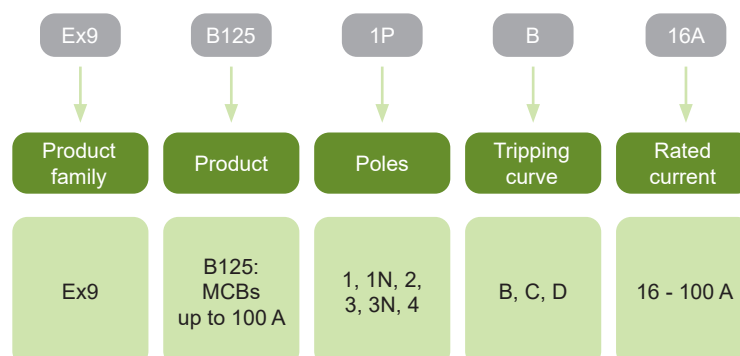


- Miniature Circuit Breakers up to 100 A
- Tested according to EN 60947-2
- High rated breaking capacities up to 25 kA
- 1 up to 4-pole versions
- Rated operating voltage 230/400 V AC
- Wide range of accessories
- Toggle colour according to rated current  $I_n$

Miniature Circuit Breakers Ex9B125 are suitable mainly for power distribution and industrial applications for short-circuit and overload current protection with rated current up to 100 A and a very high rated breaking capacities (tested according to EN 60947-2).

These breakers can be combined with wide range of accessories (same as for Ex9B breakers) including auxiliary and signal contacts, shunt trip releases, undervoltage and overvoltage releases. It is possible to create diversified combination of accessories.

## Type Key



## Certification marks



# Miniature Circuit Breakers Ex9B125

## Accessories



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

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

MCB  
**Ex9B125**  
1, 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

Overtoltage release OVT31

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

# Miniature Circuit Breakers Ex9B125

## B-Characteristic, 1-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1	B	102684	Ex9B125 1P B16A	1/12/108
20 A	1	B	102685	Ex9B125 1P B20A	1/12/108
25 A	1	B	102686	Ex9B125 1P B25A	1/12/108
32 A	1	B	102687	Ex9B125 1P B32A	1/12/108
40 A	1	B	102688	Ex9B125 1P B40A	1/12/108
50 A	1	B	102689	Ex9B125 1P B50A	1/12/108
63 A	1	B	102690	Ex9B125 1P B63A	1/12/108
80 A	1	B	102691	Ex9B125 1P B80A	1/12/108
100 A	1	B	102692	Ex9B125 1P B100A	1/12/108

## B-Characteristic, 1+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1+N	B	102714	Ex9B125 1PN B16A	1/6/54
20 A	1+N	B	102715	Ex9B125 1PN B20A	1/6/54
25 A	1+N	B	102716	Ex9B125 1PN B25A	1/6/54
32 A	1+N	B	102717	Ex9B125 1PN B32A	1/6/54
40 A	1+N	B	102718	Ex9B125 1PN B40A	1/6/54
50 A	1+N	B	102719	Ex9B125 1PN B50A	1/6/54
63 A	1+N	B	102720	Ex9B125 1PN B63A	1/6/54
80 A	1+N	B	102721	Ex9B125 1PN B80A	1/6/54
100 A	1+N	B	102722	Ex9B125 1PN B100A	1/6/54

## B-Characteristic, 2-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	2	B	102744	Ex9B125 2P B16A	1/6/54
20 A	2	B	102745	Ex9B125 2P B20A	1/6/54
25 A	2	B	102746	Ex9B125 2P B25A	1/6/54
32 A	2	B	102747	Ex9B125 2P B32A	1/6/54
40 A	2	B	102748	Ex9B125 2P B40A	1/6/54
50 A	2	B	102749	Ex9B125 2P B50A	1/6/54
63 A	2	B	102750	Ex9B125 2P B63A	1/6/54
80 A	2	B	102751	Ex9B125 2P B80A	1/6/54
100 A	2	B	102752	Ex9B125 2P B100A	1/6/54

# Miniature Circuit Breakers Ex9B125

## B-Characteristic, 3-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3	B	102774	Ex9B125 3P B16A	1/4/36
20 A	3	B	102775	Ex9B125 3P B20A	1/4/36
25 A	3	B	102776	Ex9B125 3P B25A	1/4/36
32 A	3	B	102777	Ex9B125 3P B32A	1/4/36
40 A	3	B	102778	Ex9B125 3P B40A	1/4/36
50 A	3	B	102779	Ex9B125 3P B50A	1/4/36
63 A	3	B	102780	Ex9B125 3P B63A	1/4/36
80 A	3	B	102781	Ex9B125 3P B80A	1/4/36
100 A	3	B	102782	Ex9B125 3P B100A	1/4/36

## B-Characteristic, 3+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3+N	B	102804	Ex9B125 3PN B16A	1/3/27
20 A	3+N	B	102805	Ex9B125 3PN B20A	1/3/27
25 A	3+N	B	102806	Ex9B125 3PN B25A	1/3/27
32 A	3+N	B	102807	Ex9B125 3PN B32A	1/3/27
40 A	3+N	B	102808	Ex9B125 3PN B40A	1/3/27
50 A	3+N	B	102809	Ex9B125 3PN B50A	1/3/27
63 A	3+N	B	102810	Ex9B125 3PN B63A	1/3/27
80 A	3+N	B	102811	Ex9B125 3PN B80A	1/3/27
100 A	3+N	B	102812	Ex9B125 3PN B100A	1/3/27

## B-Characteristic, 4-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	4	B	102834	Ex9B125 4P B16A	1/3/27
20 A	4	B	102835	Ex9B125 4P B20A	1/3/27
25 A	4	B	102836	Ex9B125 4P B25A	1/3/27
32 A	4	B	102837	Ex9B125 4P B32A	1/3/27
40 A	4	B	102838	Ex9B125 4P B40A	1/3/27
50 A	4	B	102839	Ex9B125 4P B50A	1/3/27
63 A	4	B	102840	Ex9B125 4P B63A	1/3/27
80 A	4	B	102841	Ex9B125 4P B80A	1/3/27
100 A	4	B	102842	Ex9B125 4P B100A	1/3/27

# Miniature Circuit Breakers Ex9B125

## C-Characteristic, 1-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1	C	102694	Ex9B125 1P C16A	1/12/108
20 A	1	C	102695	Ex9B125 1P C20A	1/12/108
25 A	1	C	102696	Ex9B125 1P C25A	1/12/108
32 A	1	C	102697	Ex9B125 1P C32A	1/12/108
40 A	1	C	102698	Ex9B125 1P C40A	1/12/108
50 A	1	C	102699	Ex9B125 1P C50A	1/12/108
63 A	1	C	102700	Ex9B125 1P C63A	1/12/108
80 A	1	C	102701	Ex9B125 1P C80A	1/12/108
100 A	1	C	102702	Ex9B125 1P C100A	1/12/108

## C-Characteristic, 1+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1+N	C	102724	Ex9B125 1PN C16A	1/6/54
20 A	1+N	C	102725	Ex9B125 1PN C20A	1/6/54
25 A	1+N	C	102726	Ex9B125 1PN C25A	1/6/54
32 A	1+N	C	102727	Ex9B125 1PN C32A	1/6/54
40 A	1+N	C	102728	Ex9B125 1PN C40A	1/6/54
50 A	1+N	C	102729	Ex9B125 1PN C50A	1/6/54
63 A	1+N	C	102730	Ex9B125 1PN C63A	1/6/54
80 A	1+N	C	102731	Ex9B125 1PN C80A	1/6/54
100 A	1+N	C	102732	Ex9B125 1PN C100A	1/6/54

## C-Characteristic, 2-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	2	C	102754	Ex9B125 2P C16A	1/6/54
20 A	2	C	102755	Ex9B125 2P C20A	1/6/54
25 A	2	C	102756	Ex9B125 2P C25A	1/6/54
32 A	2	C	102757	Ex9B125 2P C32A	1/6/54
40 A	2	C	102758	Ex9B125 2P C40A	1/6/54
50 A	2	C	102759	Ex9B125 2P C50A	1/6/54
63 A	2	C	102760	Ex9B125 2P C63A	1/6/54
80 A	2	C	102761	Ex9B125 2P C80A	1/6/54
100 A	2	C	102762	Ex9B125 2P C100A	1/6/54

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## C-Characteristic, 3-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3	C	102784	Ex9B125 3P C16A	1/4/36
20 A	3	C	102785	Ex9B125 3P C20A	1/4/36
25 A	3	C	102786	Ex9B125 3P C25A	1/4/36
32 A	3	C	102787	Ex9B125 3P C32A	1/4/36
40 A	3	C	102788	Ex9B125 3P C40A	1/4/36
50 A	3	C	102789	Ex9B125 3P C50A	1/4/36
63 A	3	C	102790	Ex9B125 3P C63A	1/4/36
80 A	3	C	102791	Ex9B125 3P C80A	1/4/36
100 A	3	C	102792	Ex9B125 3P C100A	1/4/36

## C-Characteristic, 3+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3+N	C	102814	Ex9B125 3PN C16A	1/3/27
20 A	3+N	C	102815	Ex9B125 3PN C20A	1/3/27
25 A	3+N	C	102816	Ex9B125 3PN C25A	1/3/27
32 A	3+N	C	102817	Ex9B125 3PN C32A	1/3/27
40 A	3+N	C	102818	Ex9B125 3PN C40A	1/3/27
50 A	3+N	C	102819	Ex9B125 3PN C50A	1/3/27
63 A	3+N	C	102820	Ex9B125 3PN C63A	1/3/27
80 A	3+N	C	102821	Ex9B125 3PN C80A	1/3/27
100 A	3+N	C	102822	Ex9B125 3PN C100A	1/3/27

## C-Characteristic, 4-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	4	C	102844	Ex9B125 4P C16A	1/3/27
20 A	4	C	102845	Ex9B125 4P C20A	1/3/27
25 A	4	C	102846	Ex9B125 4P C25A	1/3/27
32 A	4	C	102847	Ex9B125 4P C32A	1/3/27
40 A	4	C	102848	Ex9B125 4P C40A	1/3/27
50 A	4	C	102849	Ex9B125 4P C50A	1/3/27
63 A	4	C	102850	Ex9B125 4P C63A	1/3/27
80 A	4	C	102851	Ex9B125 4P C80A	1/3/27
100 A	4	C	102852	Ex9B125 4P C100A	1/3/27

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## D-Characteristic, 1-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1	D	102704	Ex9B125 1P D16A	1/12/108
20 A	1	D	102705	Ex9B125 1P D20A	1/12/108
25 A	1	D	102706	Ex9B125 1P D25A	1/12/108
32 A	1	D	102707	Ex9B125 1P D32A	1/12/108
40 A	1	D	102708	Ex9B125 1P D40A	1/12/108
50 A	1	D	102709	Ex9B125 1P D50A	1/12/108
63 A	1	D	102710	Ex9B125 1P D63A	1/12/108
80 A	1	D	102711	Ex9B125 1P D80A	1/12/108
100 A	1	D	102712	Ex9B125 1P D100A	1/12/108

## D-Characteristic, 1+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	1+N	D	102734	Ex9B125 1PN D16A	1/6/54
20 A	1+N	D	102735	Ex9B125 1PN D20A	1/6/54
25 A	1+N	D	102736	Ex9B125 1PN D25A	1/6/54
32 A	1+N	D	102737	Ex9B125 1PN D32A	1/6/54
40 A	1+N	D	102738	Ex9B125 1PN D40A	1/6/54
50 A	1+N	D	102739	Ex9B125 1PN D50A	1/6/54
63 A	1+N	D	102740	Ex9B125 1PN D63A	1/6/54
80 A	1+N	D	102741	Ex9B125 1PN D80A	1/6/54
100 A	1+N	D	102742	Ex9B125 1PN D100A	1/6/54

## D-Characteristic, 2-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)  
for  $I_n$  16 - 63 A = 25 kA  
for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	2	D	102764	Ex9B125 2P D16A	1/6/54
20 A	2	D	102765	Ex9B125 2P D20A	1/6/54
25 A	2	D	102766	Ex9B125 2P D25A	1/6/54
32 A	2	D	102767	Ex9B125 2P D32A	1/6/54
40 A	2	D	102768	Ex9B125 2P D40A	1/6/54
50 A	2	D	102769	Ex9B125 2P D50A	1/6/54
63 A	2	D	102770	Ex9B125 2P D63A	1/6/54
80 A	2	D	102771	Ex9B125 2P D80A	1/6/54
100 A	2	D	102772	Ex9B125 2P D100A	1/6/54

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## D-Characteristic, 3-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3	D	102794	Ex9B125 3P D16A	1/4/36
20 A	3	D	102795	Ex9B125 3P D20A	1/4/36
25 A	3	D	102796	Ex9B125 3P D25A	1/4/36
32 A	3	D	102797	Ex9B125 3P D32A	1/4/36
40 A	3	D	102798	Ex9B125 3P D40A	1/4/36
50 A	3	D	102799	Ex9B125 3P D50A	1/4/36
63 A	3	D	102800	Ex9B125 3P D63A	1/4/36
80 A	3	D	102801	Ex9B125 3P D80A	1/4/36
100 A	3	D	102802	Ex9B125 3P D100A	1/4/36

## D-Characteristic, 3+N-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	3+N	D	102824	Ex9B125 3PN D16A	1/3/27
20 A	3+N	D	102825	Ex9B125 3PN D20A	1/3/27
25 A	3+N	D	102826	Ex9B125 3PN D25A	1/3/27
32 A	3+N	D	102827	Ex9B125 3PN D32A	1/3/27
40 A	3+N	D	102828	Ex9B125 3PN D40A	1/3/27
50 A	3+N	D	102829	Ex9B125 3PN D50A	1/3/27
63 A	3+N	D	102830	Ex9B125 3PN D63A	1/3/27
80 A	3+N	D	102831	Ex9B125 3PN D80A	1/3/27
100 A	3+N	D	102832	Ex9B125 3PN D100A	1/3/27

## D-Characteristic, 4-pole

- Rated ultimate short-circuit breaking capacity  $I_{cu}$  (EN 60947-2)
  - for  $I_n$  16 - 63 A = 25 kA
  - for  $I_n$  80, 100 A = 20 kA



Rated current	Poles	Char.	Article No.	Type	Packing
16 A	4	D	102854	Ex9B125 4P D16A	1/3/27
20 A	4	D	102855	Ex9B125 4P D20A	1/3/27
25 A	4	D	102856	Ex9B125 4P D25A	1/3/27
32 A	4	D	102857	Ex9B125 4P D32A	1/3/27
40 A	4	D	102858	Ex9B125 4P D40A	1/3/27
50 A	4	D	102859	Ex9B125 4P D50A	1/3/27
63 A	4	D	102860	Ex9B125 4P D63A	1/3/27
80 A	4	D	102861	Ex9B125 4P D80A	1/3/27
100 A	4	D	102862	Ex9B125 4P D100A	1/3/27



# Technical Data Ex9B125

## Miniature Circuit Breakers up to 100 A

### General parameters

Suitable for power distribution and industrial applications

Very high limiting of short circuit current

Accessories (same as for Ex9B MCBs)

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
Oversvoltage 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)

### Electrical parameters

Tested according to	EN 60947-2
Rated operating voltage $U_e$	230/400 V AC 48 V DC
Rated frequency	50/60 Hz
Rated current	16 — 100 A
Poles	1, 1+N, 2, 3, 3+N, 4
Tripping characteristics	B, C, D
Rated ultimate short-circuit breaking capacity $I_{cu}$ (EN 60947-2)	
16, 20, 25, 32, 40, 50, 63 A	25 kA
80, 100 A	20 kA
Rated service short-circuit breaking capacity $I_{cs}$ (EN 60947-2)	
16, 20, 25, 32, 40, 50, 63 A	20 kA
80, 100 A	15 kA
Rated impulse withstand voltage $U_{imp}$	8 kV
Rated insulation voltage $U_i$	690 V AC
Electrical service life	10 000 operating cycles
Utilization category	A
Selectivity class	3
Max. back-up fuse	200 A gG
Line voltage connection	arbitrary above or below

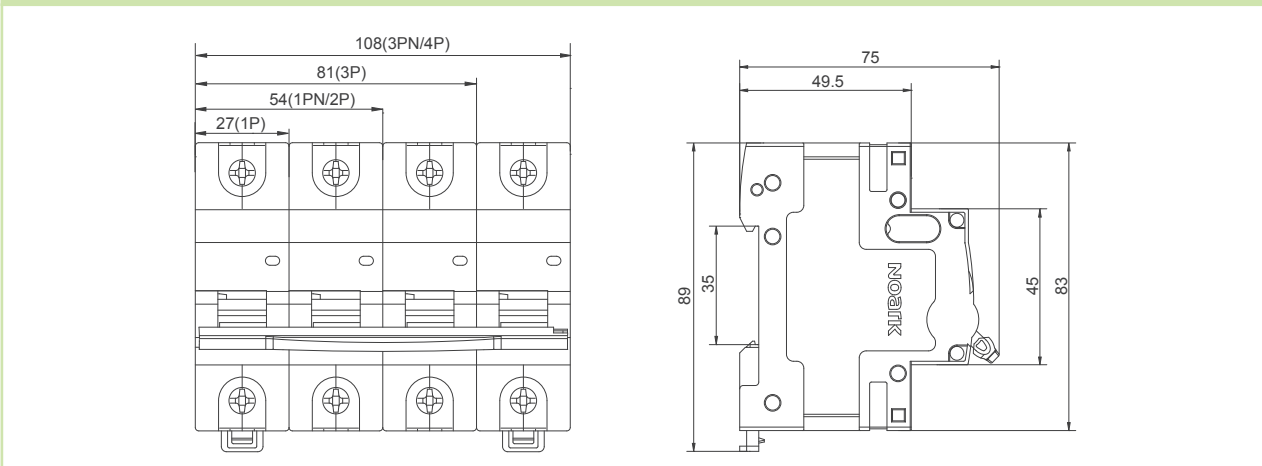
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## Miniature Circuit Breakers up to 100 A

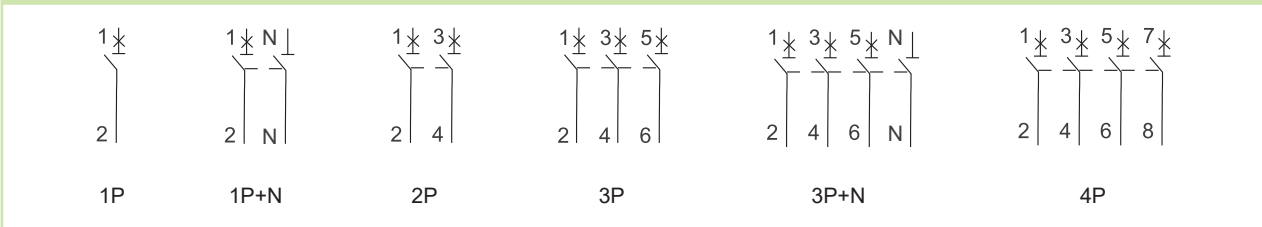
### Mechanical parameters

Device width	27 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
Mechanical service life	20 000 operating cycles
Terminals	open mouthed
Terminal capacity	2.5 — 50 mm <sup>2</sup>
Fastening torque of terminals	3.5 — 6 Nm
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	approx 0.2 kg (per pole)

### Dimensions



### Wiring diagrams



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## Miniature Circuit Breakers up to 100 A










### Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I <sub>n</sub> (T) [A]								
	16 A	20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A
-30	20.5	25.3	31.1	40.5	51.3	64.2	82.1	105.2	132.6
-20	19.8	24.5	30.2	39.2	49.2	62.4	79.2	103.1	129.8
-10	19.0	23.7	29.6	37.9	47.5	59.8	76.3	99.1	124.0
0	18.4	22.8	28.2	36.5	45.8	57.4	73.2	94.9	118.1
10	17.6	21.9	27.7	35.0	44.3	55.4	70.0	90.3	113.3
20	16.8	21.0	26.1	33.6	42.0	52.6	66.6	86.7	108.2
30	16	20	25	32	40	50	63	80	100
40	15.4	19.3	24.5	31.4	39.2	48.7	61.6	75.8	94.2
50	15.0	18.8	23.2	30.9	37.6	46.2	58.8	71.3	89.6
60	14.2	18.1	22.1	28.6	35.8	42.6	55.4	67.9	85.1
70	13.5	17.7	20.6	27.5	33.1	38.3	50.5	66.3	82.2

### Power loss per pole

I <sub>n</sub> [A]	16 A	20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A
P [W]	2.1	2.5	2.9	3.1	3.8	4.4	5.6	6.7	7.7

### Toggle colours meaning

I <sub>n</sub>	16 A	20 A	25 A	32 A	40 A	50 A	63 A	80 A	100 A
Colour									

# Technical Data Ex9B125

## Miniature Circuit Breakers up to 100 A

### Tripping characteristics

