

## Functions

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure.

## Technical specifications

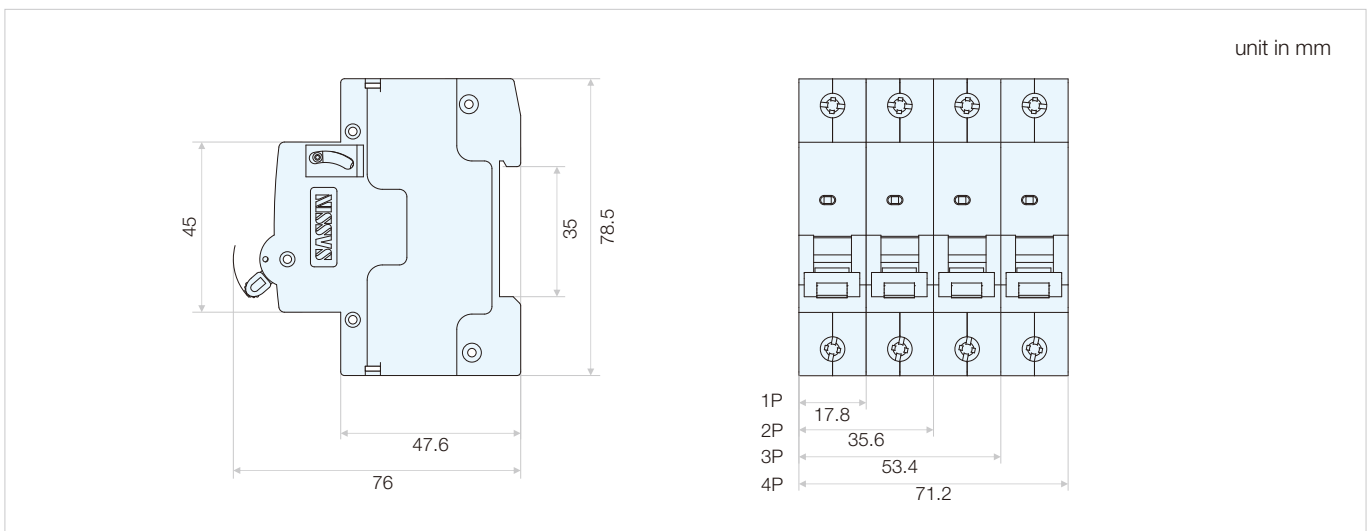
- Standards: IEC 60898-1
- Rated current  $I_n$  (A): 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage  $U_n$  (V AC): 1P: 230/400; 2-4P: 400
- Operational voltage (V AC): Min. : 24; Max. : 250/440
- Rated frequency (Hz): 50/60
- Rated insulation voltage (V AC):
  - Phase to ground: 250
  - Phase to phase: 500
- Number of poles (P): 1, 2, 3, 4, 1P+N, 3P+N
- Tripping characteristic:
  - Characteristic B ( $I_n$ ): 3-5
  - Characteristic C ( $I_n$ ): 5-10
  - Characteristic D ( $I_n$ ): 10-20
- Thermal operating limit ( $I_n$ ): 1.13 - 1.45
- Degree of protection: IP20, with connected conductors
- Electrical endurance (Cycles): 6,000
- Mechanical endurance (Cycles): 20,000
- Breaking capacity: 6 kA
- Fire resistance according to IEC 60695: 960 °C
- Busbar connection: Pin type
- Mounting position: Any
- Conductor cross-sections
  - Solid and stranded ( $\text{mm}^2$ ): 1-35
  - Finely stranded with end sleeve ( $\text{mm}^2$ ): 1-16
- Terminal tightening torque (N·m): 2.5
- Ambient temperature (°C): -5 ~ +40, max. 95 % humidity
- Altitude (meters): Max. 2000



## Features










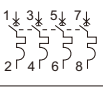
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- Clear indication of the contact position
- Energy limiting class: 3
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- Suitable for household or similar applications in accordance with: IEC 60898-1, tripping characteristics B, C and D.

## Outline and installation dimensions



# Miniature Circuit Breakers VB510

## Selection and ordering data

Number of poles	Rated current I <sub>n</sub> (A)	Characteristic B	Characteristic C	Characteristic D	
		Type code	Type code	Type code	
		6	VB511-B6	VB511-C6	VB511-D6
		10	VB511-B10	VB511-C10	VB511-D10
		16	VB511-B16	VB511-C16	VB511-D16
		20	VB511-B20	VB511-C20	VB511-D20
		25	VB511-B25	VB511-C25	VB511-D25
		32	VB511-B32	VB511-C32	VB511-D32
		40	VB511-B40	VB511-C40	VB511-D40
		50	VB511-B50	VB511-C50	VB511-D50
		63	VB511-B63	VB511-C63	VB511-D63
				6	VB515-B6
10	VB515-B10			VB515-C10	VB515-D10
16	VB515-B16			VB515-C16	VB515-D16
20	VB515-B20			VB515-C20	VB515-D20
25	VB515-B25			VB515-C25	VB515-D25
32	VB515-B32			VB515-C32	VB515-D32
40	VB515-B40			VB515-C40	VB515-D40
63	VB515-B63			VB515-C63	VB515-D63
		6	VB513-B6	VB513-C6	VB513-D6
		10	VB513-B10	VB513-C10	VB513-D10
		16	VB513-B16	VB513-C16	VB513-D16
		20	VB513-B20	VB513-C20	VB513-D20
		25	VB513-B25	VB513-C25	VB513-D25
		32	VB513-B32	VB513-C32	VB513-D32
		40	VB513-B40	VB513-C40	VB513-D40
		63	VB513-B63	VB513-C63	VB513-D63
		6	VB516-B6	VB516-C6	VB516-D6
		10	VB516-B10	VB516-C10	VB516-D10
		16	VB516-B16	VB516-C16	VB516-D16
		20	VB516-B20	VB516-C20	VB516-D20
		25	VB516-B25	VB516-C25	VB516-D25
		32	VB516-B32	VB516-C32	VB516-D32
		40	VB516-B40	VB516-C40	VB516-D40
		63	VB516-B63	VB516-C63	VB516-D63
		6	VB514-B6	VB514-C6	VB514-D6
		10	VB514-B10	VB514-C10	VB514-D10
		16	VB514-B16	VB514-C16	VB514-D16
		20	VB514-B20	VB514-C20	VB514-D20
		25	VB514-B25	VB514-C25	VB514-D25
		32	VB514-B32	VB514-C32	VB514-D32
		40	VB514-B40	VB514-C40	VB514-D40
		50	VB514-B50	VB514-C50	VB514-D50
		63	VB514-B63	VB514-C63	VB514-D63

3

## Functions

- Overload protection
- Short circuit protection
- Isolation both for phase and neutral line
- Controlling
- Used for the protection of plants with switched neutral
- Used in residential buildings

## Technical specifications

- Standard: IEC 60898-1
- Rated current  $I_n$  (A): 6, 10, 16, 20, 25, 32, 40
- Rated voltage  $U_n$  (V AC): 230
- Rated frequency (Hz): 50/60
- Operational voltage Min/Max (V AC): 24/250
- Number of pole: 1P+N (1 modular width)
- Tripping characteristic: B, C
- Characteristic B ( $I_n$ ): 3-5
- Characteristic C ( $I_n$ ): 5-10
- Thermal operating limit: 1.13-1.45  $I_n$
- Rated switching capacity  $I_{cn}$  (kA): 6
- Degree of protection: IP40, housing; IP20, terminals
- Electrical life (times): 10000
- Mechanical life (times): 20000
- Mounting position: No significant vibration and shock
- Connection capacity (mm<sup>2</sup>): 1-10
- Terminal tightening torque (N·m): 2.0
- Ambient temperature (°C): +20, max. 95 % humidity; +40, max. 50 % humidity
- Storage temperature (°C): -30 ~ +70
- Altitude (meters): Max. 2000





## Features

- 1P+N with switched neutral line in 1 module of 18 mm width, up to 40 A, rated breaking capacity 6 kA
- Current-limiting contact system and magnetic blow-out arc extinguishing device, avoiding products and equipment to bear large short-circuit current, improving the arc extinguishing ability of the product, and ensuring the breaking capacity
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON/OFF)
- This MCB for household in accordance with: IEC 60898-1, B, C tripping characteristics
- Full sets of accessories

## Selection and ordering data

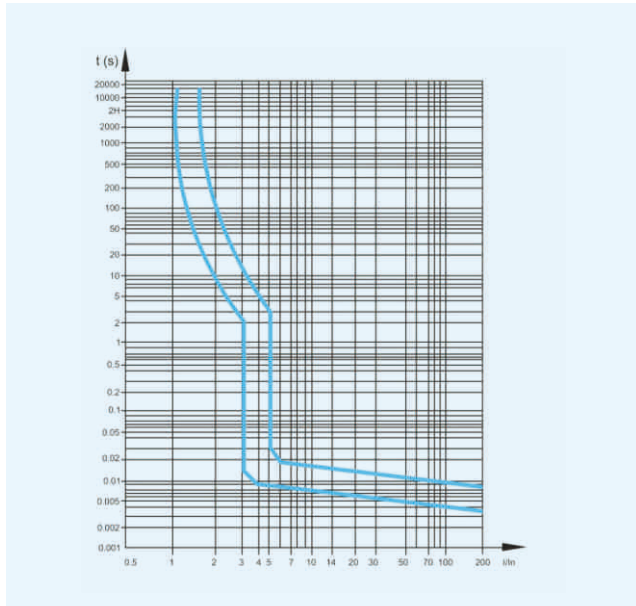
### IEC 60898-1 6 kA

	Number of poles	Rated current $I_n$ (A)	Characteristic B	Characteristic C
			Type code	Type code
 	1P+N	6	VBN515-B6	VBN515-C6
		10	VBN515-B10	VBN515-C10
		16	VBN515-B16	VBN515-C16
		20	VBN515-B20	VBN515-C20
		25	VBN515-B25	VBN515-C25
		32	VBN515-B32	VBN515-C32
		40	VBN515-B40	VBN515-C40

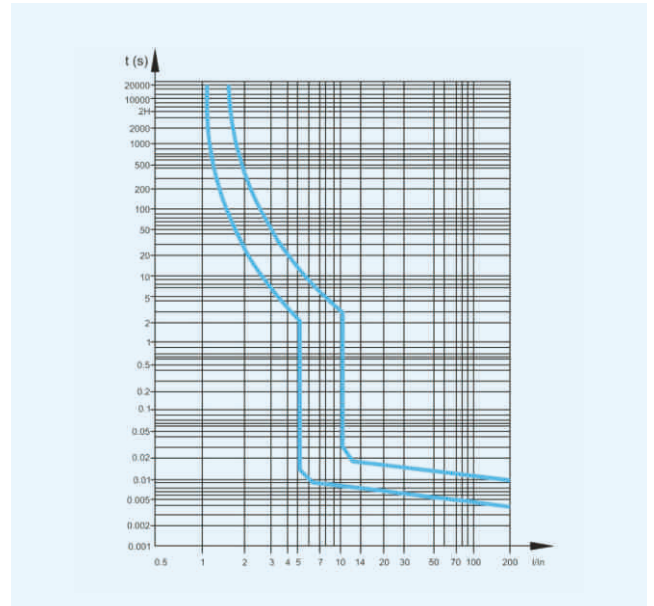
# DPN Miniature Circuit Breakers Series VBN515

## Tripping characteristic curves

Characteristic B



Characteristic C



3

### Magnetic release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit. The IEC 60898-1 distinguishes three different types, following the current for instantaneous release: type B, C

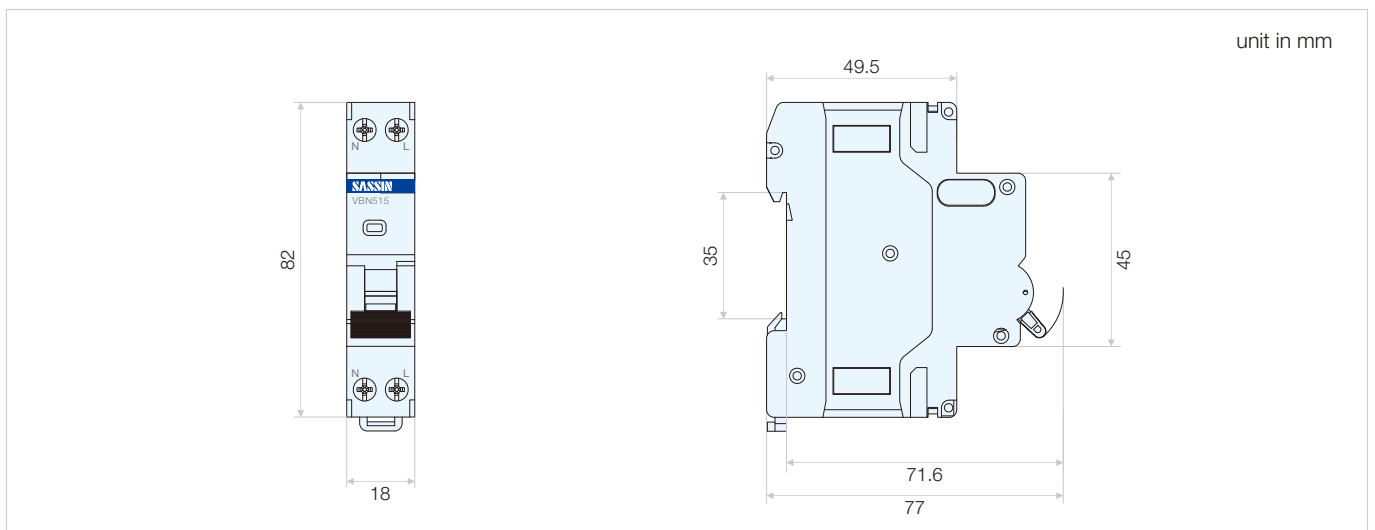
	Test current	Tripping time	Applications
B	3 I <sub>n</sub>	0.1 < t < 45 s (I <sub>n</sub> ≤ 32 A) 0.1 < t < 90 s (I <sub>n</sub> > 32 A)	Only for resistive loads such as: - electrical heating - water heater - stoves
	5 I <sub>n</sub>	t < 0.1 s	
C	5 I <sub>n</sub>	0.1 < t < 15 s (I <sub>n</sub> ≤ 32 A) 0.1 < t < 30 s (I <sub>n</sub> > 32 A)	Usual loads such as: - lighting - socket outlets - small motors
	10 I <sub>n</sub>	t < 0.1 s	

### Thermal release

- The release is initiated by a bimetal strip in case of overload
- The standard defines the range of release for specific overload values
- Reference ambient temperature is 30 °C

Test current	Tripping time
1.13 I <sub>n</sub>	t ≥ 1 h (I <sub>n</sub> ≤ 63 A)
1.45 I <sub>n</sub>	t < 1 h (I <sub>n</sub> ≤ 63 A)
2.55 I <sub>n</sub>	1 s < t < 60 s (I <sub>n</sub> ≤ 32 A) 1 s < t < 120 s (I <sub>n</sub> > 32 A)

### Outline and installation dimensions



## Functions

- Overload protection
- Short circuit protection
- Isolation
- Used in residential building, non-residential building, energy sources, industry and infrastructure.

## Technical specifications

- Standard: IEC 60947-2
- Rated current  $I_n$  (A): 63, 80, 100, 125
- Rated voltage  $U_n$  (V AC): 230/400
- Operational voltage (V AC):
  - Min.: 24
  - Max.: 250/440
- Rated insulation voltage (V AC): 500
- Number of poles: 1, 2, 3, 4
- Tripping characteristics: C, D
  - release B ( $I_n$ ): 4
  - release C ( $I_n$ ): 8
  - release D ( $I_n$ ): 14
- Thermal operating limit ( $I_n$ ): 1.05 - 1.30
- Electrical life (times): 4,000
- Mechanical life (times): 20,000
- Breaking capacity:

Model	Rated voltage		Acc. to IEC 60947-2	
	(V)		$I_{cn}$ (kA)	$I_{cs}$ (kA)
VBH510	1P	230/400	6	6
	2-4P	400	6	6

- Degree of protection: IP20, with connected conductors
- Mounting position: Any
- Conductor cross-sections
  - Solid and stranded ( $\text{mm}^2$ ): 1-50
  - Finely stranded with end sleeve ( $\text{mm}^2$ ): 1-35
- Terminal tightening torque (N·m): 3.5
- Ambient temperature ( $^{\circ}\text{C}$ ): -5 ~ +45, max. 95 % humidity
- Storage temperature ( $^{\circ}\text{C}$ ): -40 ~ +75
- Altitude (meters): Max. 2,000
- Connection capacity ( $\text{mm}^2$ ): 1-35

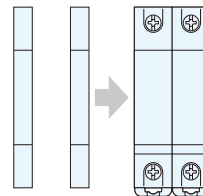


## Features

- Rated current up to 125 A
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- Adequate printing of all data on the front provides long-term identification
- This MCB for industry in accordance with: IEC 60947-2 instantaneous tripping release C: 8  $I_n$ , release D: 12  $I_n$
- This MCB may be extended with:
  - Full sets of additional components
  - Full sets of accessories

## Add-on devices





### Auxiliaries



# Miniature Circuit Breakers Series VBH510

## Selection and ordering data

IEC 60947-2 6 kA

Number of poles	Rated current I <sub>n</sub> (A)	Characteristic C		Characteristic D	
		Type code	Type code	Type code	Type code
1 	63	VBH511-C63	VBH511-D63	VBH511-C63	VBH511-D63
	70	VBH511-C70	VBH511-D70	VBH511-C70	VBH511-D70
	80	VBH511-C80	VBH511-D80	VBH511-C80	VBH511-D80
	100	VBH511-C100	VBH511-D100	VBH511-C100	VBH511-D100
	125	VBH511-C125	VBH511-D125	VBH511-C125	VBH511-D125
2 	63	VBH512-C63	VBH512-D63	VBH512-C63	VBH512-D63
	70	VBH512-C70	VBH512-D70	VBH512-C70	VBH512-D70
	80	VBH512-C80	VBH512-D80	VBH512-C80	VBH512-D80
	100	VBH512-C100	VBH512-D100	VBH512-C100	VBH512-D100
	125	VBH512-C125	VBH512-D125	VBH512-C125	VBH512-D125
3 	63	VBH513-C63	VBH513-D63	VBH513-C63	VBH513-D63
	70	VBH513-C70	VBH513-D70	VBH513-C70	VBH513-D70
	80	VBH513-C80	VBH513-D80	VBH513-C80	VBH513-D80
	100	VBH513-C100	VBH513-D100	VBH513-C100	VBH513-D100
	125	VBH513-C125	VBH513-D125	VBH513-C125	VBH513-D125
4 	63	VBH514-C63	VBH514-D63	VBH514-C63	VBH514-D63
	70	VBH514-C70	VBH514-D70	VBH514-C70	VBH514-D70
	80	VBH514-C80	VBH514-D80	VBH514-C80	VBH514-D80
	100	VBH514-C100	VBH514-D100	VBH514-C100	VBH514-D100
	125	VBH514-C125	VBH514-D125	VBH514-C125	VBH514-D125

## Outline and installation dimensions

