VB2

Miniature Circuit Breaker

- Quick closing ensures reliable operation and extends the lifetime of circuit breakers
- The temperature-rise of the product itself is lower
- Rated impulse withstand voltage up to 6.0kV
- Tunnel type wiring structure and busbar type wiring structure, reliable and fast wiring
- Modular and modular structure, can be combined arbitrarily

Ambient conditions

Operating ambient temperature/storage temperature

- Operating environment temperature: -40 °C~+70 °C, with an average value of no more than+35 °C within 24 hours
- Storage temperature: -40 °C~+80 °C

Altitude conditions

- Altitude of installation site ⩽ 2000m (Over 2000 meters need capacity reduction for using)

Damp heat resistance

- Category 2 (at a temperature of 55 °C and a relative humidity of 95%)

Pollution level

- Level 2

Protection level

- Product protection level: IP20

Installation Category

- Class II (load) and Class III (distribution and control)

Installation method

- Installed on TH35mm × 7.5 (EN50022) Standard Guide

Installation Direction

- Vertical installation of the product, with an inclination of ⩽ ± 5 ° between the installation surface and the vertical surface
- Horizontal installation

Environmental requirements

- The product meets RoHS standards

Technical parameters

Series		VB2-63
		
Rated Operational Voltage (U_e)		AC 230/400V, DC 48/60V (1P/2P)
Rated Current		1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
Tripping Characteristic		B Curve $3I_n$~$5I_n$, C Curve $5I_n$~$10I_n$, D Curve $10I_n$~$14I_n$
Number of Poles		1P, 2P, 3P, 4P
Rated Insulation Voltage (U_i)		690 V
Rated Impulse Withstand Voltage (U_{imp})		6.0 kV
Rated Short-Circuit Capacity (I_{cn})		10.0kA (Type B/C, I_n=1-63A), 6.0KA (Type D, I_n=1-63A)
Running Short-Circuit Capacity (I_{cs})		10.0kA (Type B/C, I_n=1-40A), 7.5kA (Type B/C, I_n=50A,63A), 6.0kA (Type D, I_n=1-63A)
Rated Frequency		50/60 Hz
Operating performance	Mechanical Endurance	15000 Cycle
	Electrical Endurance	10000 Cycle
Standard		IEC 60898-1
Connection		Tunnel type, Bus-bar
Connecting Capacity		1.0 mm^2…25 mm^2
Tightening Torque		2.5 N · m

VB2	–	63	C	63	/	1
1		2	3	4		5

SN	Name	Specification, type code
1	Design code	VB2: Design code
2	Frame rating	63: 63A
3	Tripping characteristic	B：$3I_n$ ~ $5I_n$ C：$5I_n$ ~ $10I_n$ D：$10I_n$ ~ $14I_n$
4	Rated current	1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
5	Number of poles	1P, 2P, 3P, 4P

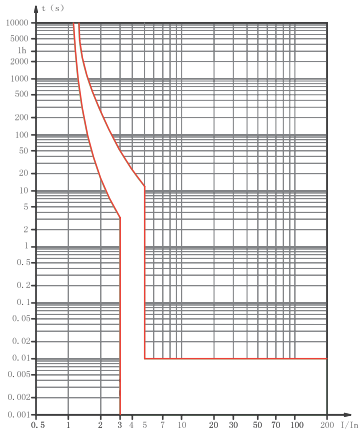
Temperature and Breaking Capacity Coefficient

Ambient °C	-40 °C	-30 °C	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
Coefficient	133.97%	125.18%	119.90%	116.95%	113.05%	109.52%	105.62%	100%	95.24%	91.33%	88.38%	83.62%

Breaking Capacity Coefficient and High Altitude Derating Tables

Altitude	Rated current	Rated voltage	Rated frequency voltage tolerance	Breaking Capacity	Breaking Capacity and Electrical life
2 km	$1.00I_n$	U_e	1.00	1.00	1.00
3 km	$0.96I_n$	U_e	0.92	0.88	0.88
4 km	$0.92I_n$	U_e	0.83	0.82	0.82
5 km	$0.87I_n$	U_e	0.77	0.70	0.70

B curve



Protection against loads with small short circuit currents (e.g., non-inductive or micro-inductive circuits)

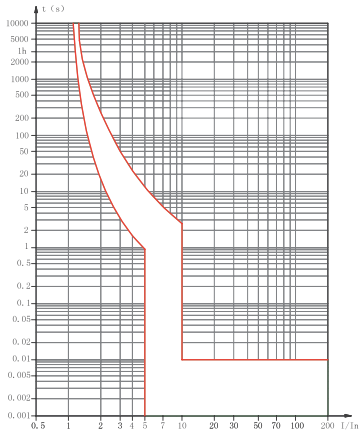
Trip characteristics:

The instantaneous trip range is $3I_n$ ~$5I_n$

Base temperature:

+30°C

C curve



Protection of conventional loads and distribution circuits

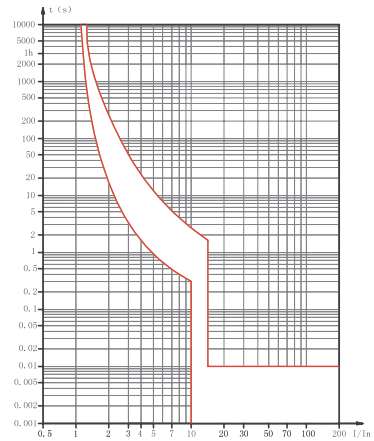
Trip characteristics:

The instantaneous trip range is $5I_n$ ~$10I_n$

Base temperature:

+30°C

D curve



Protection of impulse loads with large starting current (e.g., motors, transformers, etc.)

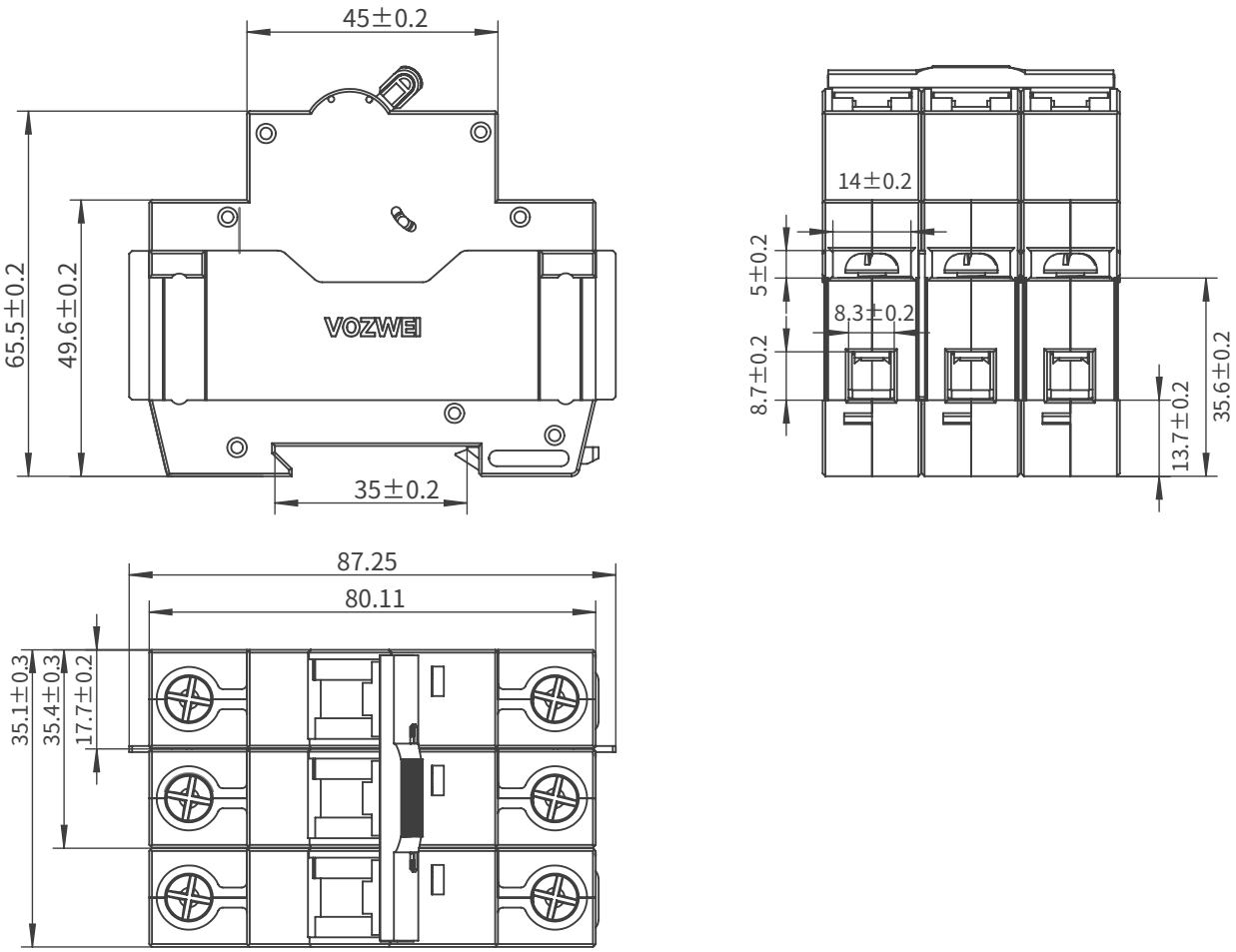
Trip characteristics:

The instantaneous trip range is 10In~14In

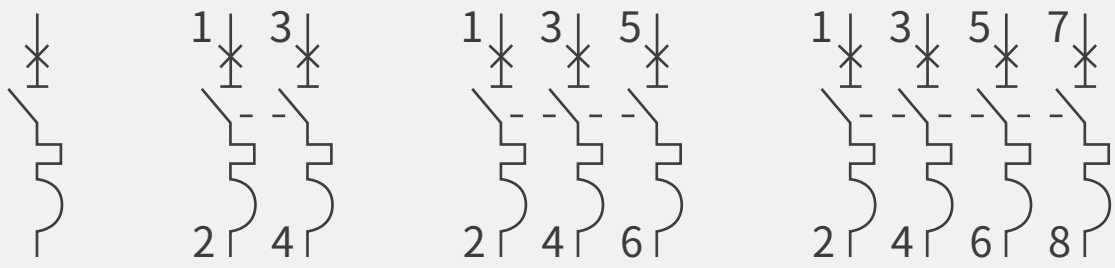
Base temperature:

+30°C

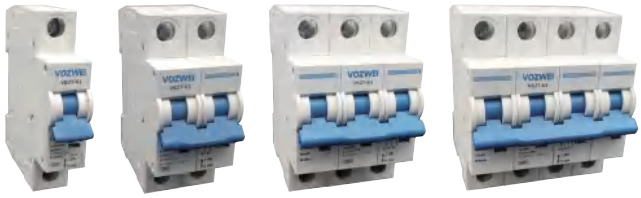
Overall and Mounting Dimensioned



Wiring Diagram



Technical parameters

Series		VB2T-63
		
Rated Operational Voltage (U_e)		AC 230/400V (1P), AC 400/415V (2P, 3P, 4P), DC 60/80V (1P), DC 80/125V (2P)
Rated Current		1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
Tripping Characteristic		B Curve 4I_n±20%, C Curve 8I_n±20%, D Curve 12I_n±20%, K Curve 10I_n±20%, Z Curve 2.5I_n±20%
Number of Poles		1P, 2P, 3P, 4P
Rated Insulation Voltage (U_i)		690 V
Rated Impulse Withstand Voltage (U_{imp})		6.0 kV
Rated Short-Circuit Capacity (I_{cu})		10.0kA
Running Short-Circuit Capacity (I_{cs})		10.0kA
Rated Frequency		50/60 Hz
Operating performance	Mechanical Endurance	15000 Cycle
	Electrical Endurance	10000 Cycle
Standard		IEC 60947-2
Connection		Tunnel type, Bus-bar
Connecting Capacity		1.0 mm^2…25 mm^2
Tightening Torque		2.5 N·m

VB2T	–	63	C	63	/	1
1		2	3	4		5

SN	Name	Specification, type code
1	Design code	VB2T: Design code
2	Frame rating	63: 63A
3	Tripping characteristic	B, C, D, K, Z
4	Rated current	1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
5	Number of poles	1P, 2P, 3P, 4P

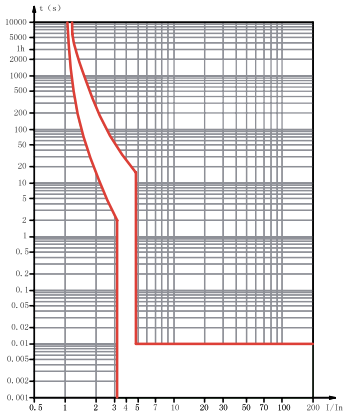
Temperature and Breaking Capacity Coefficient

Ambient °C	-40 °C	-30 °C	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
Coefficient	133.97%	125.18%	119.90%	116.95%	113.05%	109.52%	105.62%	100%	95.24%	91.33%	88.38%	83.62%

Breaking Capacity Coefficient and High Altitude Derating Tables

Altitude	Rated current	Rated voltage	Rated frequency voltage tolerance	Breaking Capacity	Breaking Capacity and Electrical life
2 km	1.00I_n	U_e	1.00	1.00	1.00
3 km	0.96I_n	U_e	0.92	0.88	0.88
4 km	0.92I_n	U_e	0.83	0.82	0.82
5 km	0.87I_n	U_e	0.77	0.70	0.70

B curve



Protection against loads with small short circuit currents (e.g., non-inductive or micro-inductive circuits)

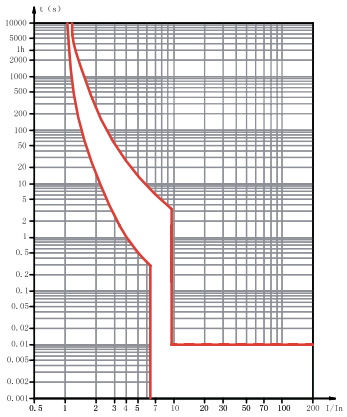
Trip characteristics:

The instantaneous trip range is $4I_n$ ±20%

Base temperature:

+30°C

C curve



Protection of conventional loads and distribution circuits

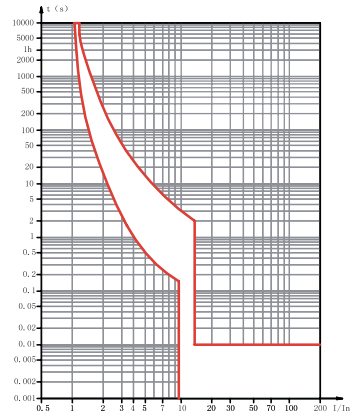
Trip characteristics:

The instantaneous trip range is $8I_n$ ±20%

Base temperature:

+30°C

D curve



Protection of impulse loads with large starting current (e.g., motors, transformers, etc.)

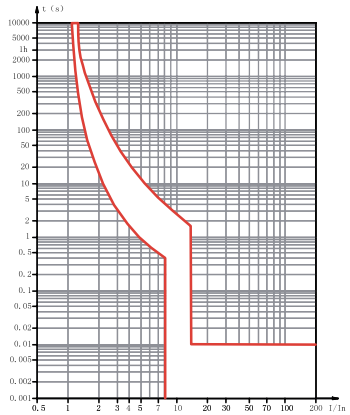
Trip characteristics:

The instantaneous trip range is 12In±20%

Base temperature:

+30°C

K curve



Protection of impulse loads with large starting current

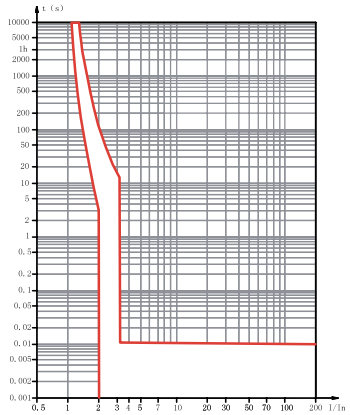
Trip characteristics:

The instantaneous trip range is 10I_n ±20%

Base temperature:

+30°C

Z curve



Protecting loads or distribution circuits that require more sensitive action

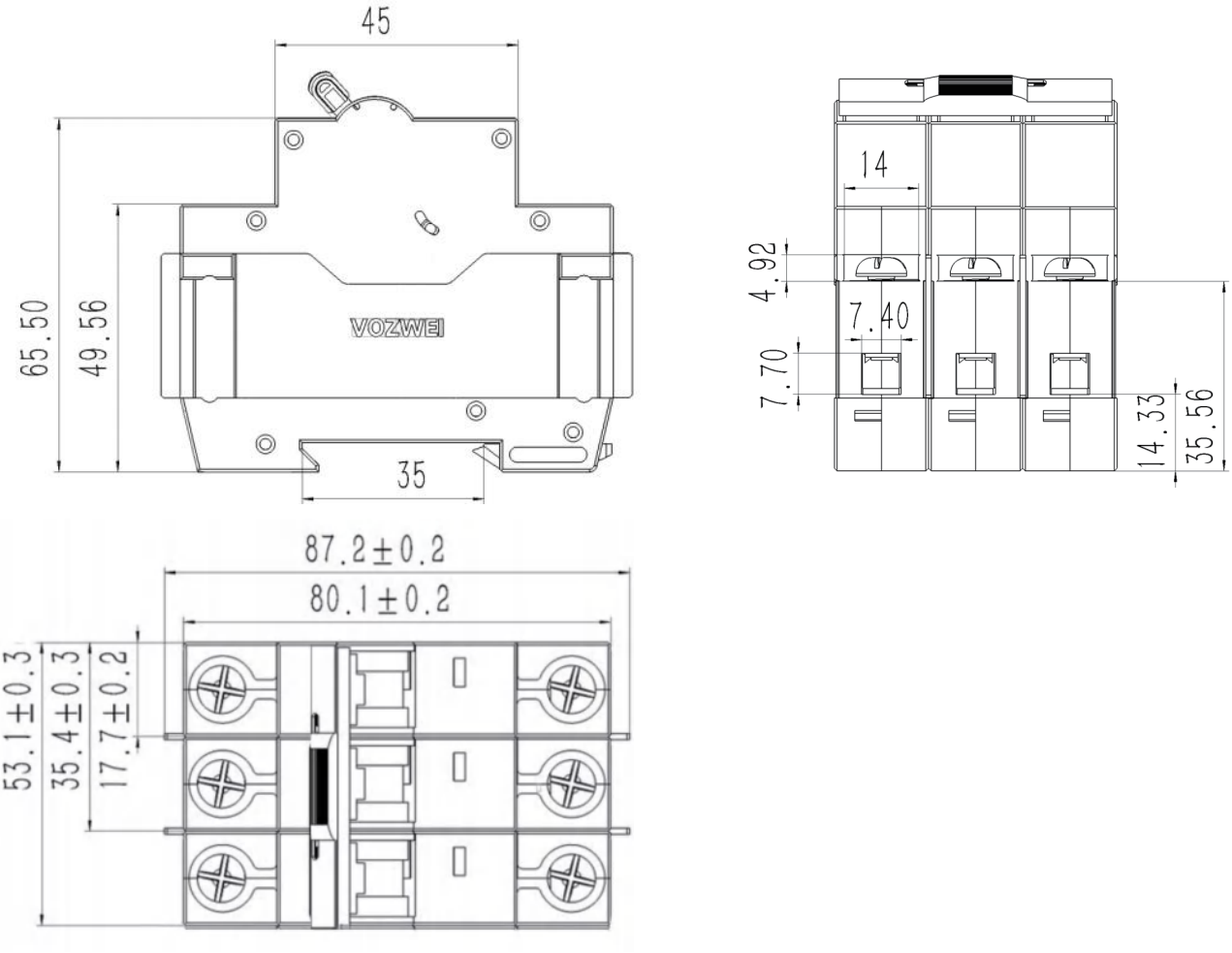
Trip characteristics:

The instantaneous trip range is 2.5I_n ±20%

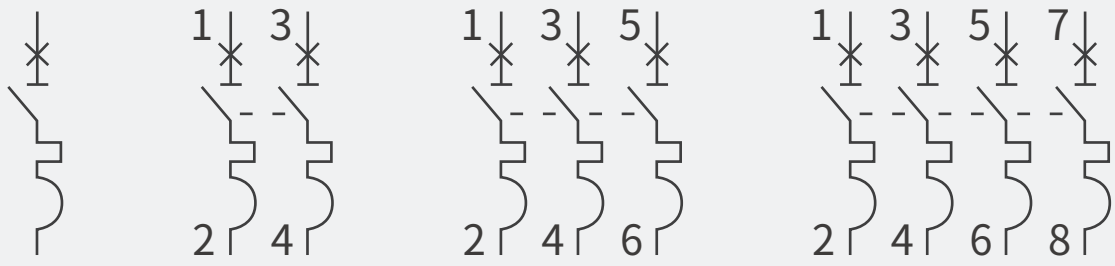
Base temperature:

+30°C

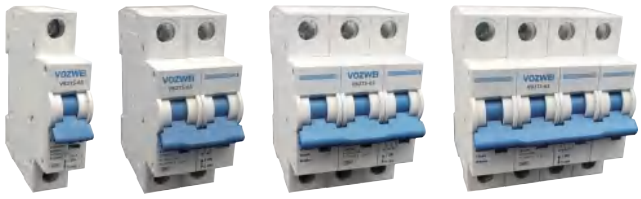
Overall and Mounting Dimensioned



Wiring Diagram



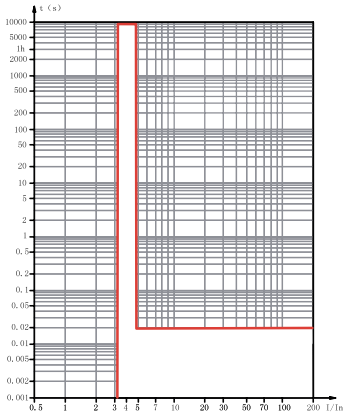
Technical parameters

Series		VB2TS-63 (Magnetic protection only)
		
Rated Operational Voltage (U_e)		AC 230/400V (1P), AC 400/415V (2P, 3P, 4P), DC 60/80V (1P), DC 80/125V (2P)
Rated Current		1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
Tripping Characteristic		B Curve 4I_n±20%, C Curve 8I_n±20%, D Curve 12I_n±20%
Number of Poles		1P, 2P, 3P, 4P
Rated Insulation Voltage (U_i)		690 V
Rated Impulse Withstand Voltage (U_{imp})		6.0 kV
Rated Short-Circuit Capacity (I_{cu})		10.0kA
Running Short-Circuit Capacity (I_{cs})		10.0kA
Rated Frequency		50/60 Hz
Operating performance	Mechanical Endurance	15000 Cycle
	Electrical Endurance	10000 Cycle
Standard		IEC 60947-2
Connection		Tunnel type, Bus-bar
Connecting Capacity		1.0 mm^2…25 mm^2
Tightening Torque		2.5 N·m

VB2T	S	–	63	C	63	/	1
1	2		3	4	5		6

SN	Name	Specification, type code
1	Design code	VB2T: Design code
2	Function code	S: Magnetic protection only
3	Frame rating	63: 63A
4	Tripping characteristic	B, C, D
5	Rated current	1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
6	Number of poles	1P, 2P, 3P, 4P

B curve



Protection against loads with small short circuit currents (e.g., non-inductive or micro-inductive circuits)

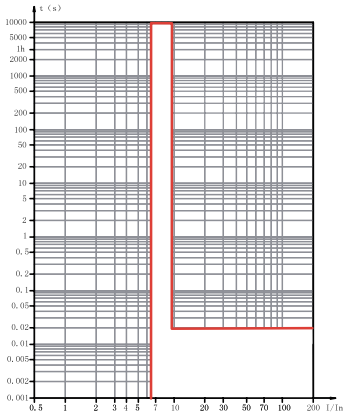
Trip characteristics:

The instantaneous trip range is $4I_n$ ±20%

Base temperature:

+30°C

C curve



Protection of conventional loads and distribution circuits

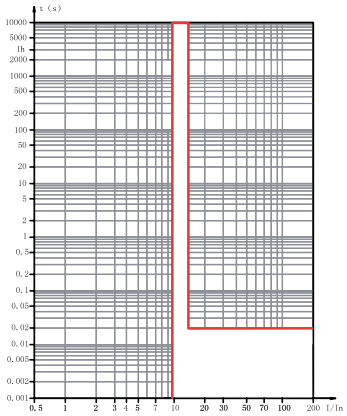
Trip characteristics:

The instantaneous trip range is $8I_n$ ±20%

Base temperature:

+30°C

D curve



Protection of impulse loads with large starting current (e.g., motors, transformers, etc.)

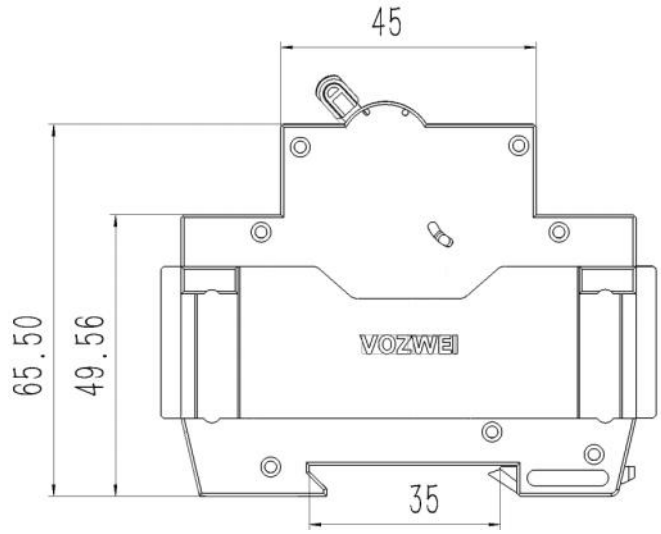
Trip characteristics:

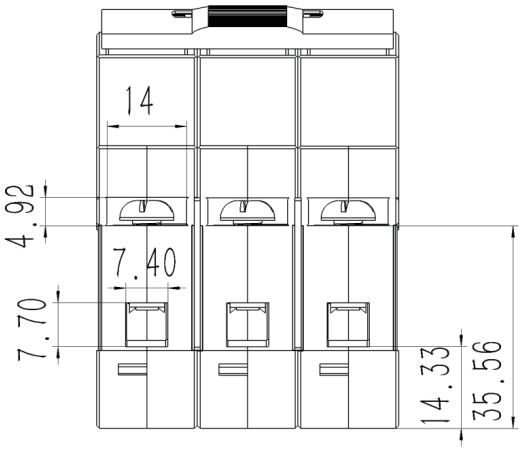
The instantaneous trip range is 12In±20%

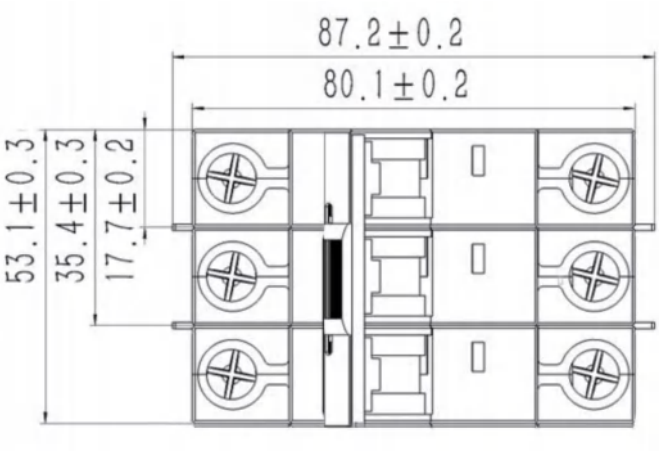
Base temperature:

+30°C

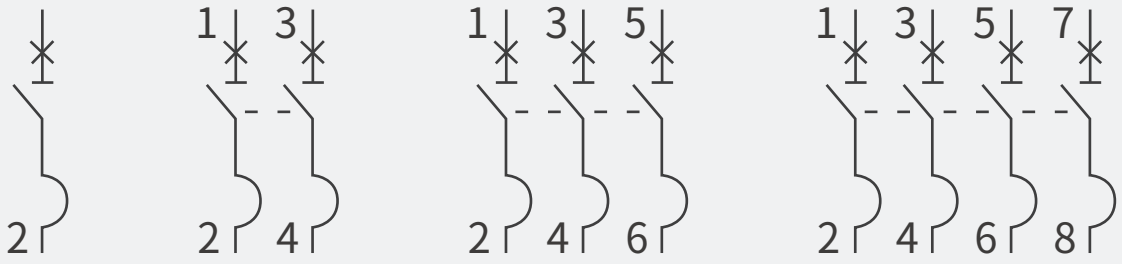
Overall and Mounting Dimensioned





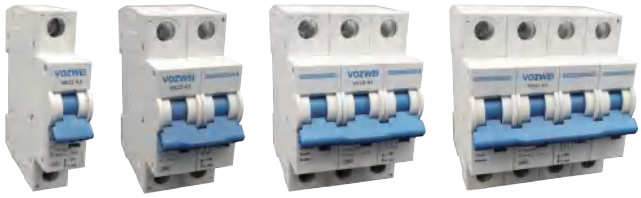


Wiring Diagram



1P 2P 3P 4P

Technical parameters

Series		VB2Z-63
		
Rated Operational Voltage (U_e)		DC 125/220/250V (1P), DC 250/440/500/690/800V (2P), DC 750/800V (3P), DC 800/1000V (4P)
Rated Current		1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
Tripping Characteristic		B Curve 6In±20%, C Curve 12In±20%
Number of Poles		1P, 2P, 3P, 4P
Rated Insulation Voltage (U_i)		1000 V
Rated Impulse Withstand Voltage (U_{imp})		6.0 kV
Rated Short-Circuit Capacity (I_{cu})		DC 125/220/250V (1P), DC 250/440/500V (2P):10kA DC 690/800V (2P):6kA DC 750/800V (3P), DC 800/1000V (4P):5kA
Running Short-Circuit Capacity (I_{cs})		DC 125/220/250V (1P):7.5kA DC 250/440/500V (2P):6kA DC 690V (2P):4.5kA DC 800V (2P):3kA DC 750/800V (3P):5kA DC 800/1000V (4P):5kA
Operating performance	Mechanical Endurance	15000 Cycle
	Electrical Endurance	10000 Cycle
Standard		IEC 60947-2
Connection		Tunnel type, Bus-bar
Connecting Capacity		1.0 mm^2…25 mm^2
Tightening Torque		2.5 N·m

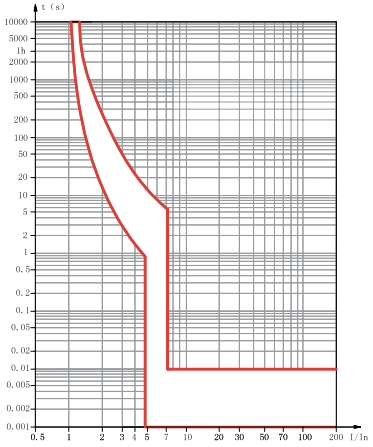
VB2	Z	–	63	C	63	/	1
1	2		3	4	5		6

SN	Name	Specification, type code
1	Design code	VB2: Design code
2	Function code	Z: DC type
3	Frame rating	63: 63A
4	Tripping characteristic	B, C
5	Rated current	1A, 2A, 3A, 4A, 6A, 8A, 10A, 13A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A
6	Number of poles	1P, 2P, 3P, 4P

Temperature and Breaking Capacity Coefficient

Ambient °C	-40 °C	-30 °C	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
Coefficient	131.59%	127.14%	123.10%	118.81%	114.40%	109.76%	105.07%	100%	94.44%	88.77%	82.63%	76.20%

B curve



Protection against loads with small short circuit currents (e.g., non-inductive or micro-inductive circuits)

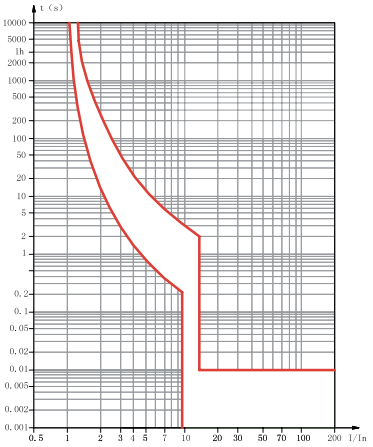
Trip characteristics:

The instantaneous trip range is 6(1±20%) I_n

Base temperature:

+30°C

C curve



Protection of conventional loads and distribution circuits

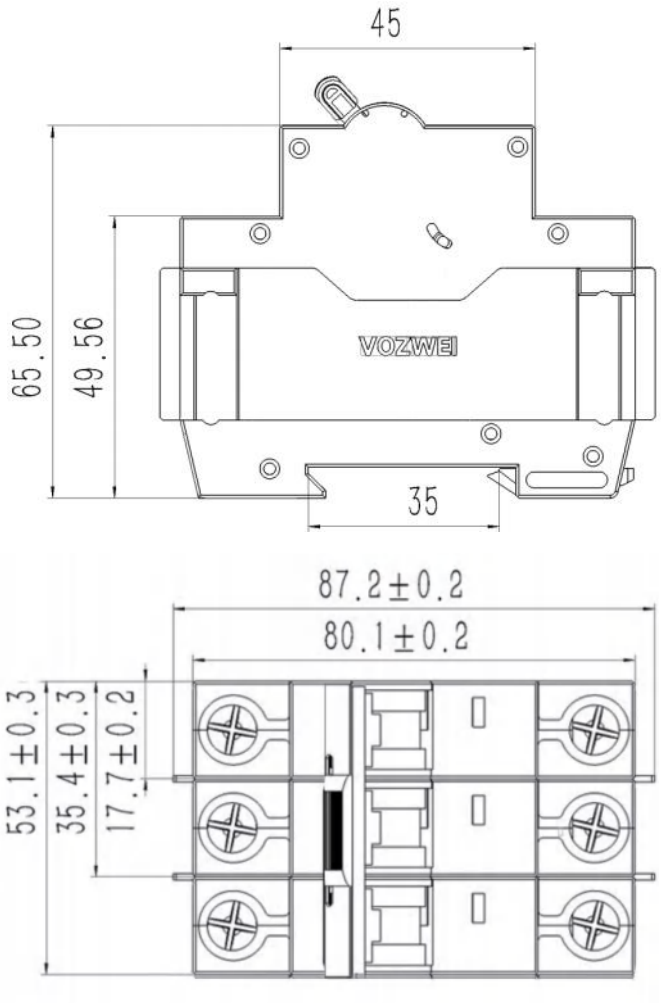
Trip characteristics:

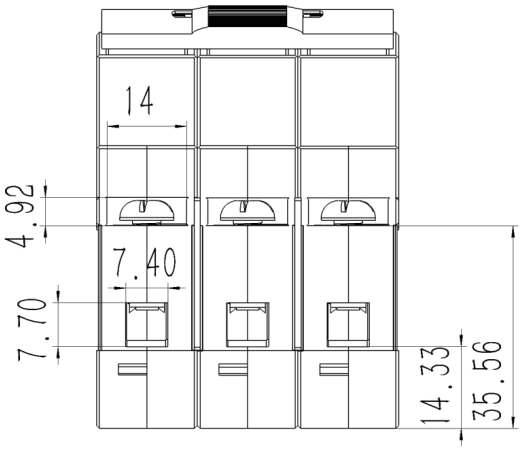
The instantaneous trip range is 12(1±20%) I_n

Base temperature:

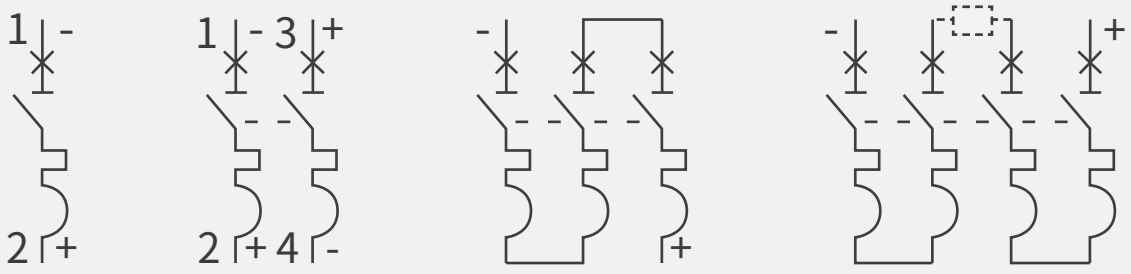
+30°C

Overall and Mounting Dimensioned





Wiring Diagram



1P 2P 3P 4P