



ELECTRICAL SAFETY  
GUARD



# EXPLORER

SAFELY EXPLORING  
LEADING SMART FUTURE



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## COMPANY PROFILE

Huanyu High-Tech Co., Ltd. is a high tech enterprise focusing on the development, manufacturing and marketing of low-voltage electrical components. Established on Zhejiang High Tech. Co, Ltd of Huanyu Group in early 2021, we are a joint venture of Huanyu Group, a large national conglomerate company, and Eaton Group, a global power management company.

Our products are widely used in many applications including power grids, network communications, new energy, metallurgy, chemical industry, transportation, manufacturing and construction, serving various well-known customers such as the State Grid, China Southern Power Grid, Evergrande Real Estate, Vanke, Country Garden, Poly Real Estate, R&F Properties, the Three Gorges of the Yangtze River, Daqing Oilfield, Jiangsu Power Grid, Xi'an Jiaotong University, Guangzhou Baiyun Airport, Shanghai Disney, China FAW, China Railway, and China Railway Construction. Now we have 10+ integrated service centers, 30+ sales offices, 600+ terminal image specialty shops, and over 800 sales outlets in mainland China.

We have been awarded the National Contract-honoring and Trustworthy Enterprise, National Customer-satisfied Enterprise, National High-Tech Enterprise, Zhejiang Well-known Trade Name, Zhejiang Green Enterprise, Zhejiang Major Taxpayer, and Wenzhou

Mayor Quality Award. In addition, we have been certified with ISO9001 Quality Management System, ISO14001 Environmental Management System and ISO45001 Occupational Health and Safety Management System, and passed more than 10 international certification including the KEMA standard of Netherlands, UL standard of the United States, CE standard of the European Union, TÜV standard of Germany, FI standard of France, and CB system. We have a national post-doctoral research station, a provincial technology research institute, and a nationally accredited CNAS laboratory. We also have more than 100 national invention patents and utility model patents, and has implemented the National Torch Plan and major provincial scientific research and development projects. Our products have been rated as China Famous Brand Products, National Customer-satisfied Products, and Zhejiang Famous Brand Products. Besides, we have been awarded Zhejiang Manufacturing Quality Certificate and have the right to use Zhejiang "Pin", a word mark meaning quality.

Committed to smart electric to make life better, we will continue to focus on product innovation, talent development, and smart manufacturing, to build a modernized global electrical enterprise.





# Safely Exploring Leading Smart Future



Industry leading design platform  
Mainstream performance, safe and reliable



Comprehensive product range  
Offering updated, safer and complete protection



Clear and intuitive logo, readable



Flexible wiring methods: both upper and lower incoming are available, adaptable standard requirement in each region



"Visible safety": a contact indication window is added for reliable indication of the contact's disconnected position



Can be used in more severe application environments, with ambient temperature from -35°C to +70°C, meeting various application requirements



Up to seven mounting accessories are available, meeting a variety of needs for functional extension



A complete series of accessories for universal use, offering simple and convenient selection



Easy and reliable mounting  
Tool-free mounting



Unique mechanism design, delivering enhanced current limiting capacity, up to 6kA breaking capacity, and superior performance, ensuring the safety of personnel and equipment



Brand new industrial outline design through simple lines and with distinctive design concept, showcasing product quality in every detail



Unique mechanism design, significantly improving service life; mechanical life is up to 20,000 operations, and electrical life up to 10,000 operations

# CONTENT

## 01

### Product Description

- 1-3 Product data
- 4-6 Product description and selection

## 02

### Miniature Circuit Breaker

- 7 EXB3-40 Miniature circuit breaker
- 8 EXB3-63 Miniature circuit breaker
- 9 EXB3-63H Miniature circuit breaker
- 10 EXB3-125 Miniature circuit breaker

## 03

### Residual Current Circuit Breaker with Overcurrent Protection

- 11 EXB3LY-63 Residual Current Circuit Breaker with Overcurrent Protection
- 12 EXB3LE-63(H) Residual Current Circuit Breaker with Overcurrent Protection
- 13 EXB3LE-125 Residual Current Circuit Breaker with Overcurrent Protection

## 04

### Residual current operated circuit breakers (magnetic)

- 14 EXB3L1 -100 Residual current operated circuit breakers without over-current protection (magnetic)

## 05

### Disconnecter Switch

- 15 EXH3-125 Disconnecting switch

## 06




### Accessories

- 16-17 EXB3-63 Accessory
- 18-19 EXB3-125 Accessory

## 07

### Appendix

- 20-22 Tripping characteristics
- 23-24 Temperature coefficient correction table

Product model		EXB3-40	EXB3-63	EXB3-63H
				
Standards		GB/T 10963.1、IEC 60898-1	GB/T 10963.1、IEC 60898-1	GB/T 10963.1、IEC 60898-1
Number of poles		1P+N	1P、1P+N、2P、3P、3P+N、4P	1P、1P+N、2P、3P、3P+N、4P
Rated current (A)		6~40	1~63	1~63
Rated voltage (V)		AC230	AC230 ( 1P、1P+N ) AC400 ( 2P、3P、3P+N、4P )	AC230 ( 1P、1P+N ) AC230/400 ( 2P ) AC400 ( 3P、3P+N、4P )
Rated frequency(Hz)		50/60	50/60	50/60
Residual current type		-	-	-
Rated residual operating current I $\Delta$ n(mA)		-	-	-
Rated short-circuit breaking capacity Icu(A)		4500	6000	10000
Operating short-circuit breaking capacity Ics(A)		4500	6000	7500
Rated short-time withstand current Icw(kA)		-	-	-
Rated short-circuit making capacity Icm(kA)		-	-	-
Rated impulse withstand voltage Uimp ( 1.2/50 ) ( kV )		4	6	6
Dielectric testing voltage(V)		( power frequency 1min ) 2000	( power frequency 1min ) 2000	( power frequency 1min ) 2000
Mechanical life (times)		20000	20000	20000
Electrical life (times)		10000	10000	10000
Thermal magnetic tripping characteristics	B ( 3In ~ 5In )		■	■
	C ( 5In 10In )	■	■	■
	D ( 10In 20In )	■	■	■
	C ( 6.4In 9.6In )			
	Regular ( 8In 12In )			
	D ( 9.6In 14.4In )			
Anti-humidity ( GB/T2423.4 )		28 periodic cycles , RH: 90-96% at 55°C RH: 95-100% at 25°C	28 periodic cycles , RH: 90-96% at 55°C RH: 95-100% at 25°C	28 periodic cycles , RH: 90-96% at 55°C RH: 95-100% at 25°C
Benchmark ambient temperature ( °C )		30	30	30
Operating ambient temperature ( °C )		-35 ~ +70	-35 ~ +70	-35 ~ +70
Storage ambient temperature ( °C )		-35 ~ +85	-35 ~ +85	-35 ~ +85
Applicable altitude height ( m )		≤2000m	≤2000m	≤2000m
Max. wiring capacity ( mm <sup>2</sup> )		10	25	25
Max. ultimate torque ( N·m )		1.5	2	2
Incoming method		Top or bottom enter	Top or bottom enter	Top or bottom enter
Mounting method		TH35-7.5 standard rail mounting	TH35-7.5 standard rail mounting	TH35-7.5 standard rail mounting
Pollution degree		2	2	2
Protection degree	Direct mounting	IP20	IP20	IP20
	Mounted in the distribution box	IP40	IP40	IP40
Accessories that can be assembled		OF auxiliary contact SD alarm contact MX+OF shunt release MN under-voltage release MV over-voltage release MVMN over/under-voltage release MNs no-voltage release	OF auxiliary contact SD alarm contact MX+OF shunt release MN under-voltage release MV over-voltage release MVMN over/under-voltage release MNs no-voltage release	OF auxiliary contact SD alarm contact MX+OF shunt release MN under-voltage release MV over-voltage release MVMN over/under-voltage release MNs no-voltage release

**Product description**

The miniature circuit breakers can be used in circuit with AC 50Hz/60Hz, rated voltage up to 400V, and rated current up to 125A, to offer overload and short-circuit protection for construction power distribution, similar power line facilities and electrical equipment.

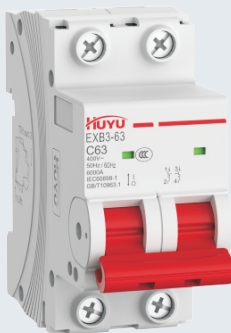
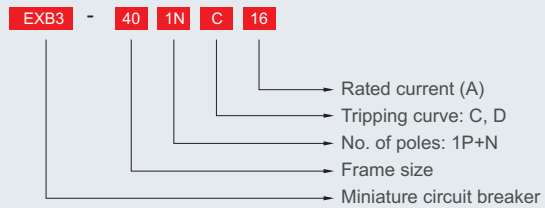
The residual current circuit breakers can be used in circuit with AC 50Hz/60Hz, rated voltage up to 400V, and rated current up to 125A, to offer residual current, overload and short circuit protections. They can also be used for direct or indirect personal protection against electric shock or for protection against fire hazards due to ground fault currents.

The disconnecting switches can be used in circuit with AC 50Hz/60Hz, rated voltage up to 400V, and rated current up to 125A, to offer isolating and functional breaking for terminal power distribution.

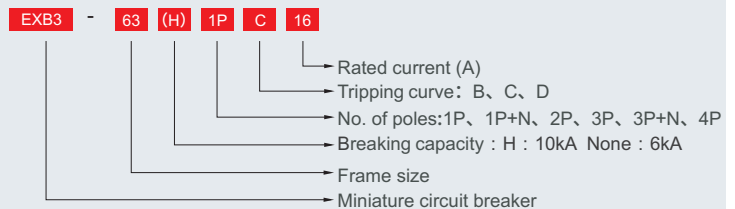
**Product selection**



Product model description (40A Frame Size Miniature Circuit Breaker)



Product model description (63A Frame Size Miniature Circuit Breaker)



In accordance with GB/T 10963.1 and IEC 60898-1

The EXB3-63 miniature circuit breakers functions:

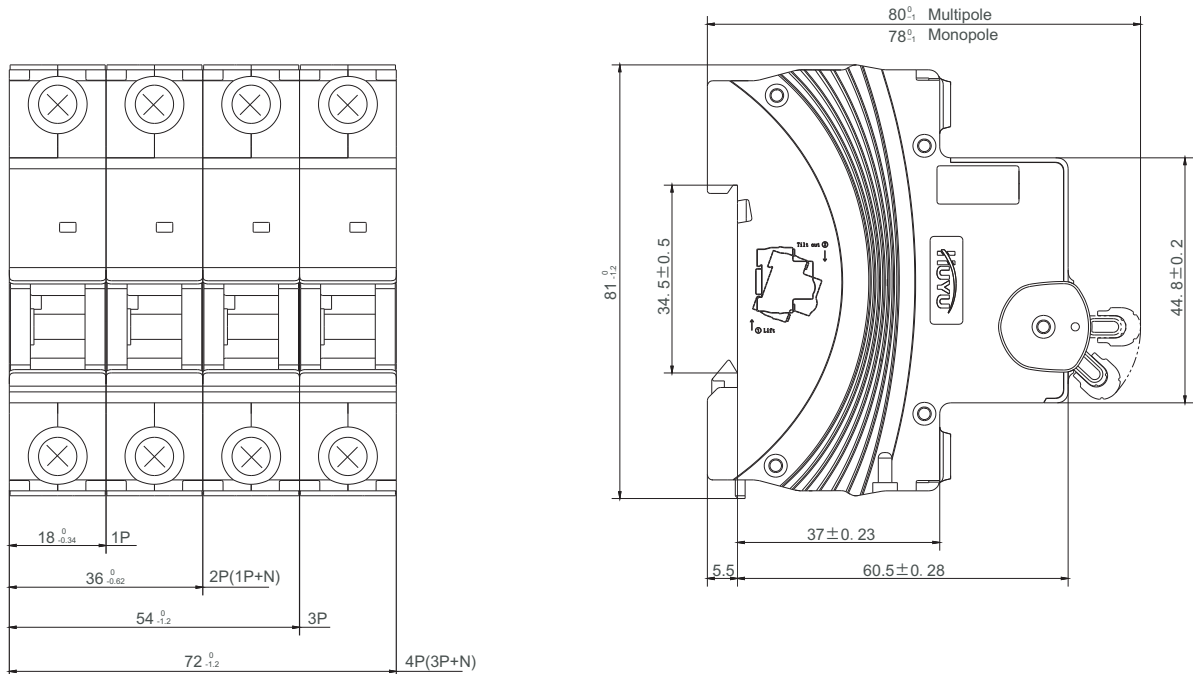
- Overload protection
- Short-circuit protection
- Isolation function

### Technical data



Product model	EXB3-63
No. of poles	1P, 1P+N, 2P, 3P, 3P+N, 4P
Rated current	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated voltage	AC230V(1P, 1P+N), AC400V(2P, 3P, 3P+N, 4P)
Rated operating frequency	50Hz/60Hz
Rated impulse withstand voltage	6kV
Rated short-circuit breaking capacity	6000A
Operating short-circuit breaking capacity	6000A
Instantaneous tripping type	B, C, D
Mechanical life(times)	20000
Electrical life(times)	10000

### Outlines and dimensions





**Remote indication accessories**



- OF auxiliary contact
  - External circuit, indicating the circuit breaker's ON/OFF status
  - Basic type of auxiliary contact: 1NO/1NC
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



- SD alarm contact
  - Send signals of fault tripping of the circuit breaker
  - With mechanical indication available on the front panel, to indicate fault tripping
  - Basic type of auxiliary contact: 1NO/1NC
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire

**Tripping accessories**



- MX+OF shunt release
  - External circuit, indicating the circuit breaker's ON/OFF status
  - The circuit breaker for use with the release will be triggered to trip upon receiving a signal
  - Basic type of auxiliary contact: 1NO/1NC
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



- MV over-voltage release
  - Provide line protection due to over-voltage fault
  - The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the releasee rise to the rated voltage range
  - With fault tripping indication available on the front panel, to indicate an over-voltage tripping with the indicator popped up
  - Rated operating tripping over-voltage: (280±14) V AC
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



- MN under-voltage release
  - Provide line protection due to under-voltage fault
  - The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the releasee drop to the rated voltage range
  - With fault tripping indication available on the front panel, to indicate under-voltage tripping with the indicator popped up
  - Rated operating tripping under-voltage: (161±8.05) V AC
  - Under-voltage protection range: (35%~70%) of U<sub>e</sub>
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



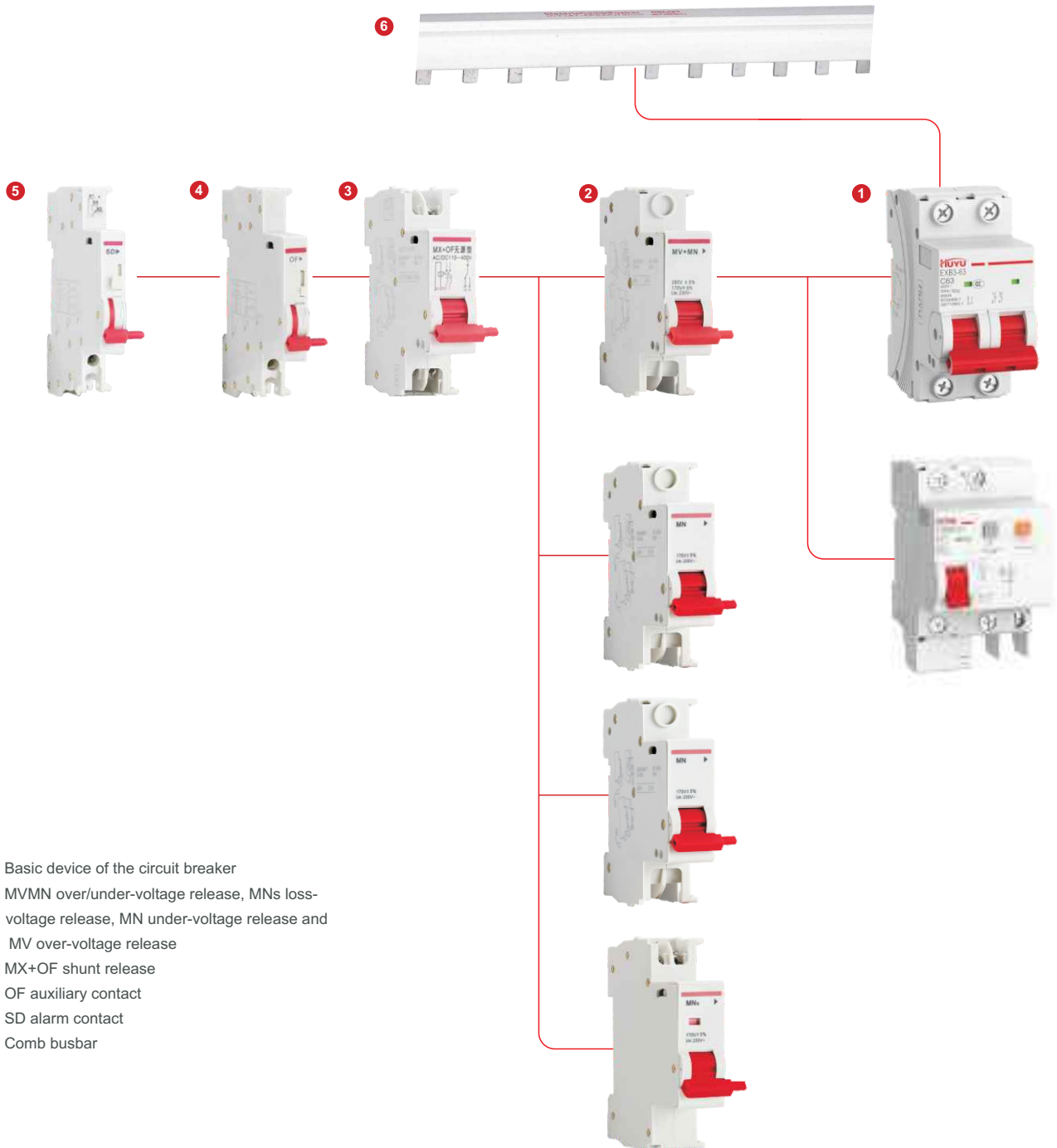
- MVMN over/under-voltage release
  - Provide line protection due to over-voltage and under-voltage fault
  - The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the releasee rise or drop to the rated range
  - With fault tripping indication available on the front panel, to indicate over-voltage or under-voltage tripping with the indicator popped up
  - Rated operating tripping over-voltage: (280±14) V AC
  - Rated operating tripping under-voltage: (161±8.05) V AC
  - Under-voltage protection range: (35%~70%) of U<sub>e</sub>
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



- MNs loss-voltage release
  - The circuit breaker for use with the release will be triggered to trip when the power supply voltage drops to the rated range, to achieve under-voltage protection
  - Ensure the circuit breaker to close normally when the power supply voltage returns to normal
  - Prevent the circuit breaker from re-closing when the power supply voltage is zero or drops to the rated voltage range
  - With fault tripping indication available on the front panel, to indicate under-voltage tripping when popped up
  - Rated operating tripping under-voltage: (161±8.05) V AC, with under-voltage protection range of (35%~70%) of U<sub>e</sub>
  - Normal recovery voltage: ≥85%U<sub>e</sub>, with loss-voltage protection range <35%U<sub>e</sub>
  - Wiring capacity: 1-2.5mm<sup>2</sup> wire



**Accessory mounting diagram**



- 1、 Basic device of the circuit breaker
- 2、 MVMN over/under-voltage release, MNs loss-voltage release, MN under-voltage release and MV over-voltage release
- 3、 MX+OF shunt release
- 4、 OF auxiliary contact
- 5、 SD alarm contact
- 6、 Comb busbar

**Mounting instruction**

- 1、 Accessories can be assembled to breaker left side by tool-free.
- 2、 The total mounting width is within 54mm, including OF, SD (3 max.) +MO, MNs, MV, MN, MVMN (2 max.) + MCB from left to right.

**Accessory mounting diagram**



- 1、Circuit breaker
- 2、MVMN over/under-voltage release, MNs loss-voltage release, MN under-voltage release and MV over-voltage release
- 3、MX+OF shunt release
- 4、OF auxiliary contact
- 5、SD alarm contact

**Mounting instruction**

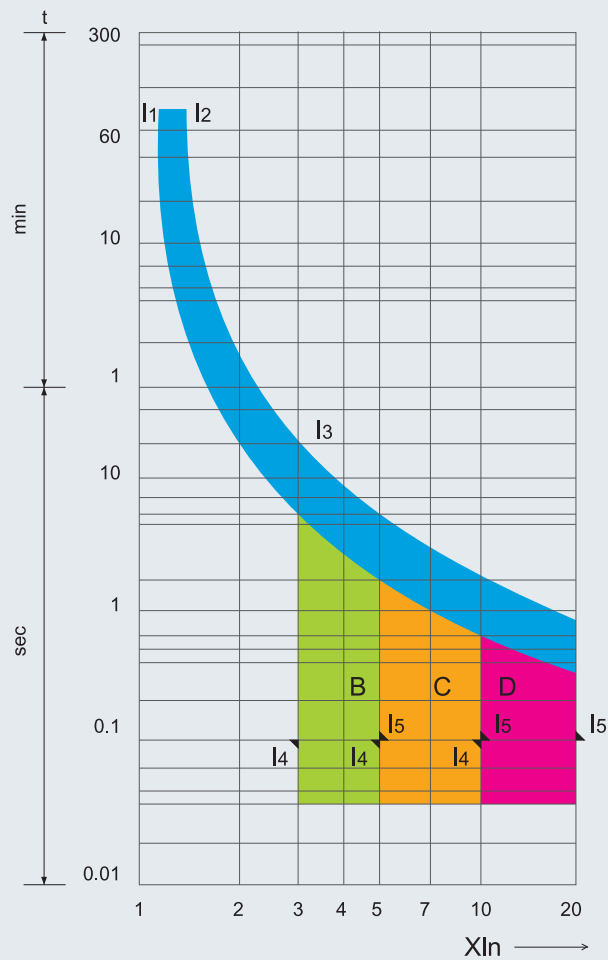
- 1、OF and SD are mounted on the left side of the circuit breaker, and only one accessory can be mounted on the left side of each circuit breaker
- 2、MX+OF, MV, MN, and MVMN are mounted on the right side of the circuit breaker, and only one accessory can be mounted on the right side of each circuit breaker
- 3、Accessories can not be mounted on the right side of EXB3LE-125 residual current products
- 4、Accessories can be mounted to EXB3-125 and EXB3LE-125 series circuit breakers
- 5、The above accessories cannot be ordered separately; they need to be mounted onto the circuit breaker before delivery from the factory

Tripping characteristics

- Tripping characteristics of EXB3-63, EXB3LY-63, and EXB3LE-63

Release type		B	C	D	Start state	Tripping time	Expected outcome
Thermal tripping	$I_1$	1.13In			Cold state	$t \leq 1h$	No tripping
Thermal tripping	$I_2$	1.45In			Following the above test	$t < 1h$	Tripping
Magnetic tripping	$I_4$	3In	5In	10In	Cold state	$t \leq 0.1s$	No tripping
Magnetic tripping	$I_5$	5In	10In	20In	Cold state	$t < 0.1s$	Tripping

- Tripping characteristic curve





Temperature correction table

▪ Temperature correction table of EXB3-40

Rated current A	Rated current correction value A										
	-35°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	7.68	7.5	7.08	6.78	6.48	6.18	6	5.76	5.46	5.22	4.92
10	12.7	12.4	11.9	11.3	10.7	10.2	10	9.6	9.1	8.7	8.2
16	20.32	19.84	19.04	18.08	17.12	16.32	16	15.36	14.56	13.92	13.12
20	25.4	24.8	23.8	22.6	21.4	20.4	20	19.2	18.2	17.4	16.4
25	31.75	31	29.75	28.25	26.75	25.5	25	24	22.75	21.75	20.5
32	40.64	39.68	60.8	36.16	34.56	33.28	32	31.04	29.44	28.16	26.56
40	50.8	49.6	76	45.2	43.2	41.6	40	38.8	36.8	35.2	33.2

▪ Temperature correction table of EXB3-63

Rated current A	Rated current correction value A										
	-35°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1	1.28	1.25	1.18	1.13	1.08	1.03	1	0.96	0.91	0.87	0.82
2	2.56	2.5	2.36	2.26	2.16	2.06	2	1.92	1.82	1.74	1.64
3	3.84	3.75	3.54	3.39	3.24	3.09	3	2.88	2.73	2.61	2.46
4	5.12	5	4.72	4.52	4.32	4.12	4	3.84	3.64	3.48	3.28
5	6.4	6.25	5.9	5.65	5.4	5.15	5	4.8	4.55	4.35	4.1
6	7.68	7.5	7.08	6.78	6.48	6.18	6	5.76	5.46	5.22	4.92
10	12.7	12.4	11.9	11.3	10.7	10.2	10	9.6	9.1	8.7	8.2
16	20.32	19.84	19.04	18.08	17.12	16.32	16	15.36	14.56	13.92	13.12
20	25.4	24.8	23.8	22.6	21.4	20.4	20	19.2	18.2	17.4	16.4
25	31.75	31	29.75	28.25	26.75	25.5	25	24	22.75	21.75	20.5
32	40.64	39.68	60.8	36.16	34.56	33.28	32	31.04	29.44	28.16	26.56
40	50.8	49.6	76	45.2	43.2	41.6	40	38.8	36.8	35.2	33.2
50	64	62.5	59	56.5	54	51.5	50	48	45.5	43.5	41
63	80.64	78.75	74.34	71.19	68.04	64.89	63	60.48	57.33	54.81	51.66

▪ Temperature correction table of EXB3-63H

Rated current A	Rated current correction value A										
	-35°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1-6	1.28	1.25	1.18	1.13	1.08	1.03	1	0.96	0.91	0.87	0.82
10-25	1.27	1.24	1.19	1.13	1.07	1.02	1	0.96	0.91	0.87	0.82
32-40	1.27	1.24	1.19	1.13	1.08	1.04	1	0.97	0.92	0.88	0.83
50-63	1.28	1.25	1.18	1.13	1.08	1.03	1	0.96	0.91	0.87	0.82

▪ Temperature correction table of EXB3-125

Rated current A	Rated current correction value A										
	-35°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
63	78.6	76.3	73.8	71.3	68.6	65.9	63	60	56.8	53.5	49.9
80	98.4	95.6	92.7	89.7	86.6	83.4	80	76.5	72.8	69	64.9
100	124.5	120.7	116.9	112.9	108.8	104.5	100	95.3	90.4	85.2	79.6
125	157	152.2	147.1	141.9	136.5	130.9	125	118.8	112.3	105.4	98