

H8B

Series Miniature Circuit Breaker

Terminal Distribution



I. Scope of Application

The H8B-63 Series Miniature Circuit Breaker is suitable for the overload and short-circuit protection in lines with AC 50 Hz, rated voltage up to 230 V/400 V and rated working current up to 63 A, as well as the infrequent on-off operation of lines under normal conditions.

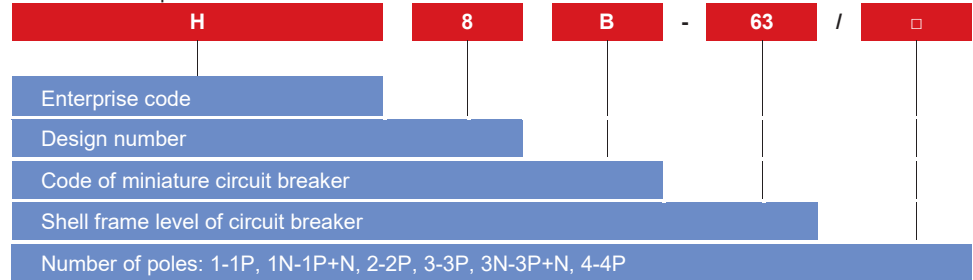
The H8B-63 Series Miniature Circuit Breaker is equipped with accessories such as H8B-F auxiliary contacts, H8B-FB auxiliary alarm contacts, H8B-FL shunt strip, H8B-QY undervoltage release, H8B-GY overvoltage release and H8B-GQY overvoltage/undervoltage release, which provides convenience for the intelligent control of intelligent buildings. Overvoltage, undervoltage and overvoltage/undervoltage are electronic releases, which are used in combination with circuit breakers or residual current circuit breakers. They are suitable for 50 Hz AC lines with rated voltage of 230 V, which can protect circuits against overvoltage, undervoltage and overvoltage/undervoltage caused by line faults, so as to prevent the electrical equipment from being burned down or not working normally due to the fluctuation of power grid voltage.

Circuit breakers can be applied to various places such as industrial, commercial, high-rise, and residential buildings.

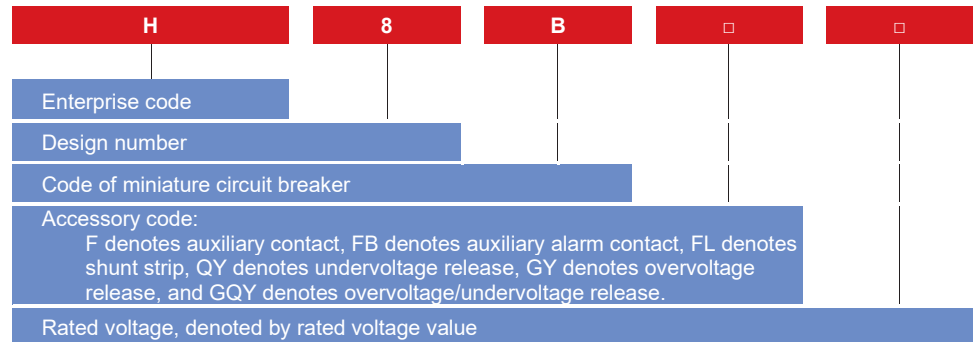
The product complies with GB/T 10963.1, IEC 60898-1.

II. Model Description

1. Model Description of the H8B-63 Miniature Circuit Breaker



2. Model Description of H8B-63 Miniature Circuit Breaker accessories



III. Normal Operating Conditions

1. The upper limit of ambient air temperature shall not exceed +40°C, the lower limit shall not be lower than -5°C, and the average-value VI within 24 hours shall not exceed +35°C.
2. The altitude of the installation location shall not exceed 2,000 meters.
3. The atmospheric relative humidity of the installation site shall not exceed 50% at the maximum ambient temperature of +40°C, and the humidity may be higher at a lower temperature. The average maximum relative humidity of the wettest month shall not exceed 90%, and the average temperature of that month shall not exceed +25°C. Measures must be taken for the condensation on products due to temperature changes.
4. Contamination grade: Grade 2.
5. Installation category: II and III.
6. Install with 35mm standard guide rail.

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IV. Structural Features

1. The circuit breaker is characterized by good current limitation, extremely short arc time, high breaking capacity, accurate protection, long service life and reliable performance.
2. The shell adopts the unique design of curved surface. Its side surface is provided with assembly-line ventilating slots, which can improve the heat dissipation capacity and reduce the temperature rise of the product.
3. It has obvious indication of contact position status.
4. 1P+N and 3P+N circuit breakers, whose N pole can be switched off.
5. The terminal has a dual-purpose connection mode of bus bar and conductor.
6. Complete accessories, including auxiliary contacts, alarm contacts, shunt strip, undervoltage release, overvoltage release and overvoltage/undervoltage release.

V. Main Technical Parameters

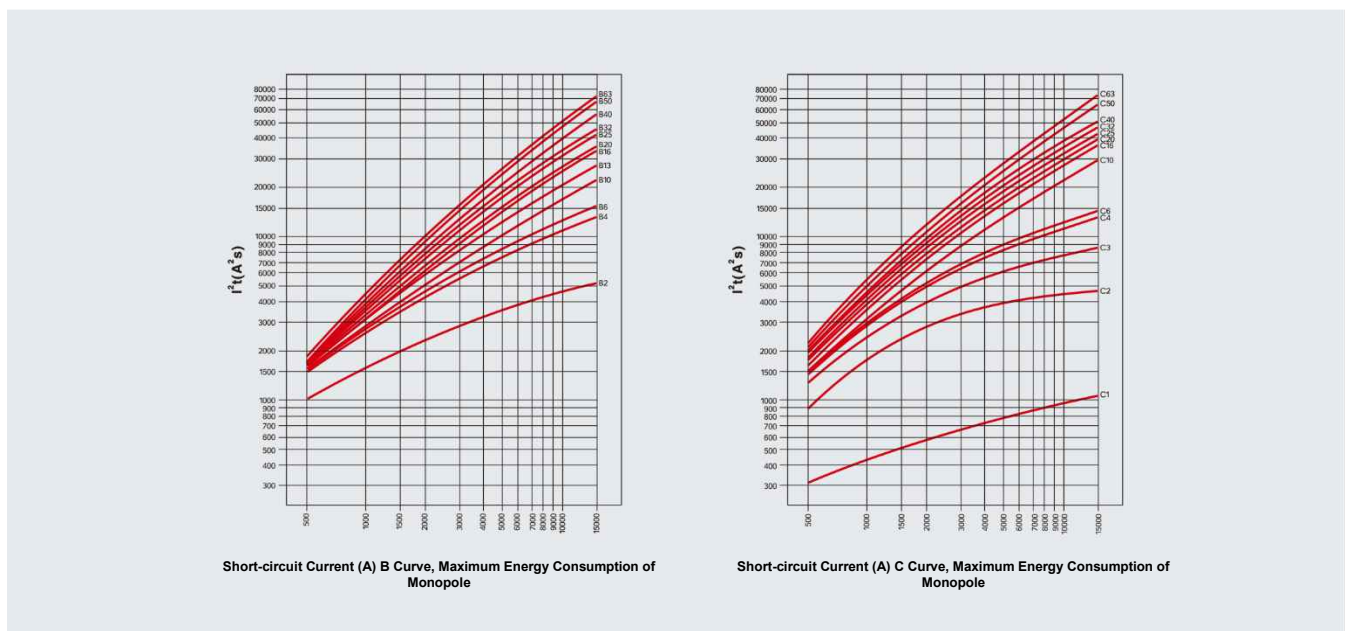
1. Basic technical parameters of the H8B-63 Series Miniature Circuit Breaker

Shell frame level	Rated voltage (Ue)	Rated current (In) (A)		Rated limit short-circuit breaking capacity Icn	Rated operating short-circuit breaking capacity Ics	Number of poles	Service life (times)		Types of instantaneous release and tripping current range		
		Type B, Type C, Type D					Mechanical life	Electrical endurance	Type B	Type C	Type D
63	50Hz 230/400V	1, 2, 4, 6, 10 16, 20, 25, 32		12,000 A	7500 A	1P 1P+N 2P 3P 3P+N 4P	20,000	8,000	3~5 In	5~10 In	10~20 In
		40, 50, 63		10,000 A							

2. Trip characteristics, types and application scope

Trip type	Trip characteristics	Application scope
B	It is used for miniature circuit breakers with faster tripping and without large short-circuit current. Its short-term overload current shall be less than 3 In, and the instantaneous tripping range is 3~5 In.	Protection of load with small short-circuit current and transformer secondary circuit, such as: power supply and long cable.
C	It is suitable for most electrical circuits, and it allows the miniature circuit breaker not to operate when high short-time overload current passes through the load. The maximum short-time overload current can reach 5 In, and the instantaneous tripping range is 5~10 In.	Protection of general electrical circuits
D	It is recommended to be applied to switching equipment with very high short-time overload current less than 10 In, and the instantaneous tripping range is 10~20 In.	Protection of impact load with large starting current and the primary line of transformers, such as motors and transformers.

3. Maximum energy consumption of the product



4. Overcurrent tripping characteristics of the circuit breaker

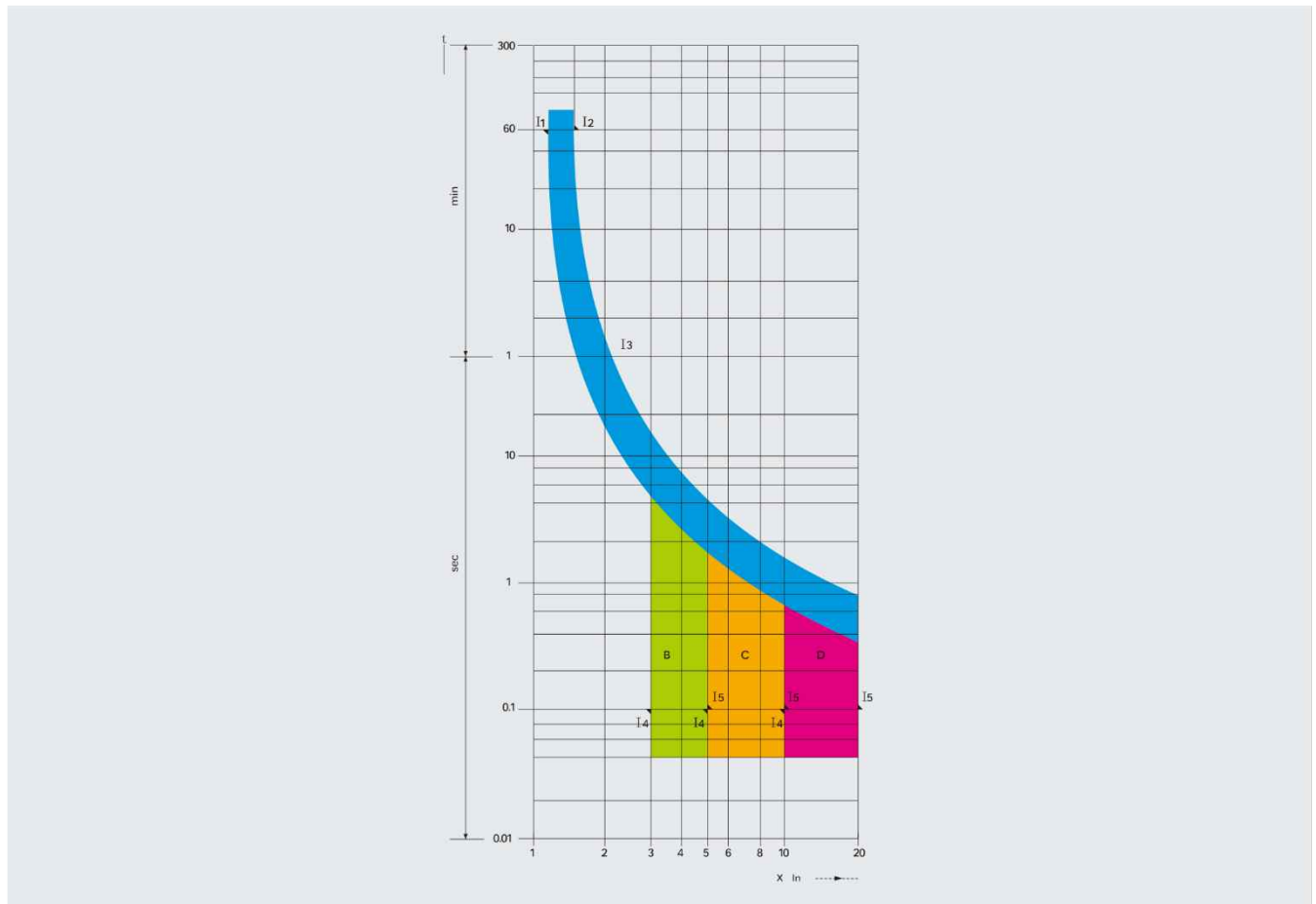
Table 1

Release type	Test current (A)			Tripping time (t)	Expected result	Remarks	
	B	C	D				
Thermal tripping	I_1	$1.13 I_n$			≤ 1 h	No tripping	Cold state
	I_2	$1.45 I_n$			< 1 h	Tripping	Hot state (immediately following the above test)
Magnetic tripping	I_4	$3 I_n$	$5 I_n$	$10 I_n$	≤ 0.1 s	No tripping	Room temperature
	I_5	$5 I_n$	$10 I_n$	$20 I_n$	< 0.1 s	Tripping	

Note: The action characteristic of thermal tripping is the expected result obtained within the specified time at 30°C–35°C according to the corresponding wire connection in the following table. The product is commissioned according to this condition when leaving the factory. If the working condition is different, the rated current shall be compensated accordingly. It is recommended that the user adopts the wire connection in Table 2.

5. Overcurrent tripping characteristic curve of the circuit breaker

Figure 1



6. Cross-section area of copper wire corresponding to the circuit breaker

Table 2

Rated current I_n (A)	≤ 6	10	16, 20	25	32	40, 50	63
Cross-section area of wire (mm ²)	1	1.5	2.5	4	6	10	16


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VI. Main Technical Parameters of H8B Series Accessories

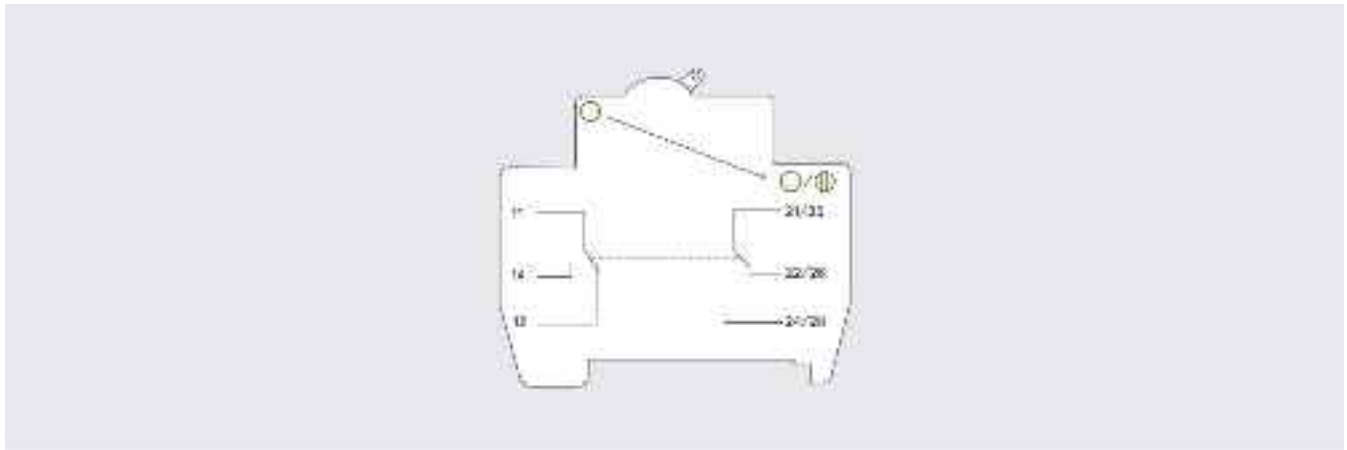
1. Technical parameters of H8B-F

	Use category	Ue (V)	Ie (A)	Number of contacts
	AC-13	230	6	1 NO+ 1 NC
		400	2	
	DC-13	60	4	
		110	2	
220		0.5		

2. Technical parameters of H8B-FB

	Use category	Ue (V)	Ie (A)	Number of contacts
	AC-13	230	2	2 sets of changeover contacts
	AC-15	230	1	
	DC-12	110	0.5	

3. The H8B-FB auxiliary alarm contact has 2 sets of changeover contacts. As shown in Figure 1, when the yellow indicator is in “☐”, both of changeover contacts are auxiliary contacts. When the yellow indicator is in “⊙”, the left side is the auxiliary contact and the right side is the alarm contact.



4. Technical parameters of H8B-FL



The rated control power supply voltage (U_s) of the H8B-FL shunt strip is AC 50 Hz, 24 V–60 V, 110 V–400 V, as well as DC 24 V–60 V and 110 V–220 V. When the applied power supply voltage is in the range of 70% U_s –110 % U_s , the shunt strip can operate reliably to switch off the circuit breaker.

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5. Technical parameters of H8B-GY, H8B-QY and H8B-GQY



- a. Rated voltage (U_e): 230 V;
- b. Overvoltage setting range: $U_{vo} = 280 V \pm 5\%$;
- c. Undervoltage setting range: $U_{oe} = 170 V \pm 5\%$;
- d. Overvoltage/undervoltage setting range: $U_{vo} = 280 V \pm 5\%$, $U_{oe} = 170 V \pm 5\%$.

6. Functions of overvoltage release

Overvoltage setting value U_{vo} is 280 V. When the applied voltage is less than $0.95 U_{vo}$, the overvoltage release cannot operate. When the applied voltage is larger than $1.05 U_{vo}$, the overvoltage release must operate reliably to switch off the circuit breaker.

7. Functions of undervoltage release

Undervoltage setting value U_{oe} is 170 V. When the applied voltage is less than $0.95 U_{oe}$, the undervoltage release can operate reliably to disconnect the circuit breaker. When the applied voltage is larger than $1.05 U_{oe}$, the undervoltage release cannot operate so as to ensure the reliable closing of the circuit breaker. It shall be noted that the undervoltage release is an electronic undervoltage release, which has no loss-voltage protection function, and the circuit breaker can be switched on at zero voltage.

8. Installation and use

The accessory series cannot be used alone. They can only be used in combination with circuit breakers or residual current circuit breakers.

1. Combination of H8B-63 series circuit breakers and accessories

- a. Circuit Breaker+Auxiliary Contact
- b. Circuit Breaker+Auxiliary Alarm Contact
- c. Circuit Breaker+Shunt Strip
- d. Circuit Breaker+Undervoltage Release
- e. Circuit Breaker+Overvoltage Release
- f. Circuit Breaker+Overvoltage/Undervoltage Release
- g. Circuit Breaker+Shunt Strip+Auxiliary Contact
- h. Circuit Breaker+Shunt Strip+Auxiliary Alarm Contact

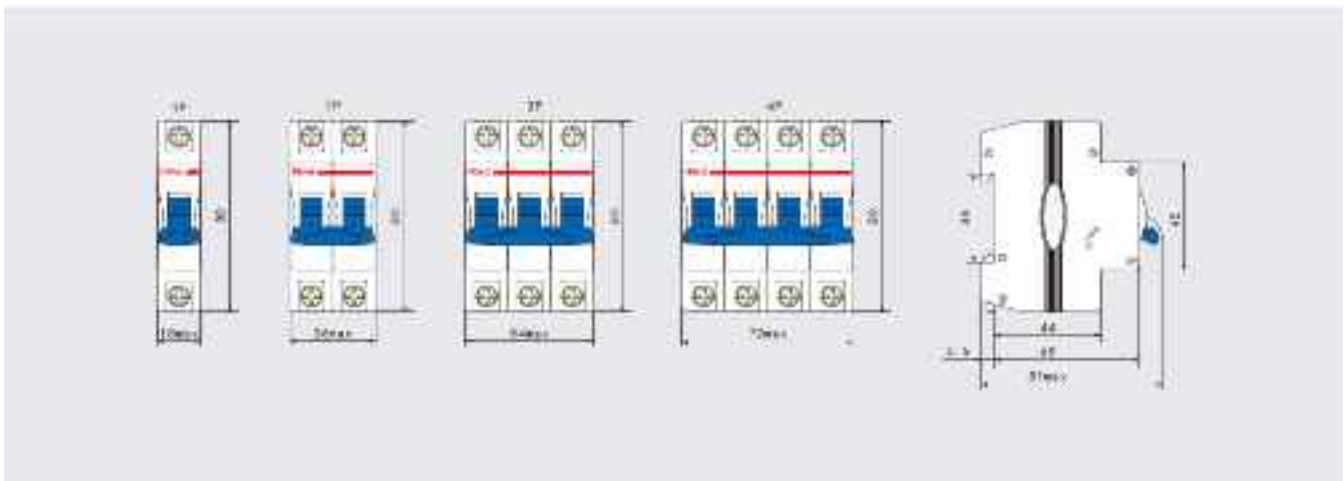
H8B-63 series circuit breaker accessories are all installed on the left side of the circuit breaker, and the auxiliary contacts, alarm contacts and the circuit breaker are fixed with screws. Shunt strips, overvoltage, undervoltage and overvoltage/undervoltage releases and the circuit breaker are fixed with double-sided adhesive tape, which are involved in the installation of the guide rail at the same time.

The mechanical connection between transmission shafts and circuit breakers of H8B-F, H8B-FB, H8B-FL, H8B-GY, H8B-QY and H8B-GQY shall act in a flexible and correct way.

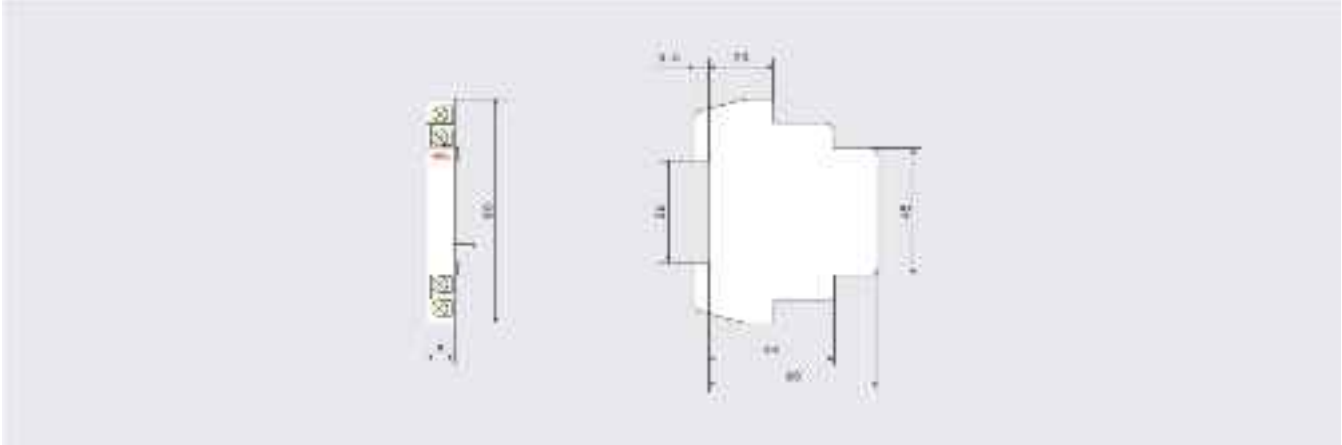
The working power supply of the shunt strip shall be no less than 100 VA.

VII. Outline and Installation Dimensions

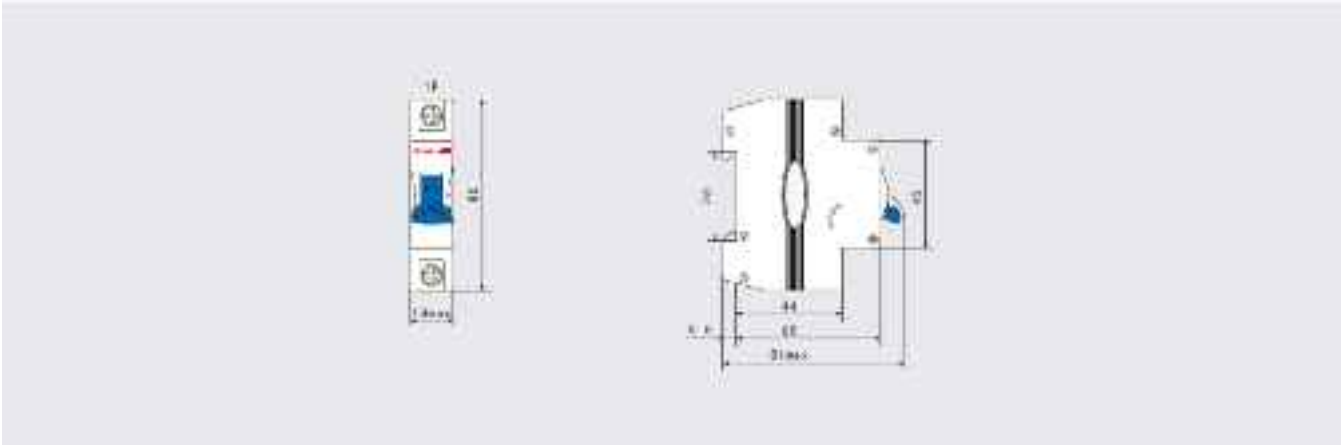
1. H8B-63 Miniature Circuit Breaker



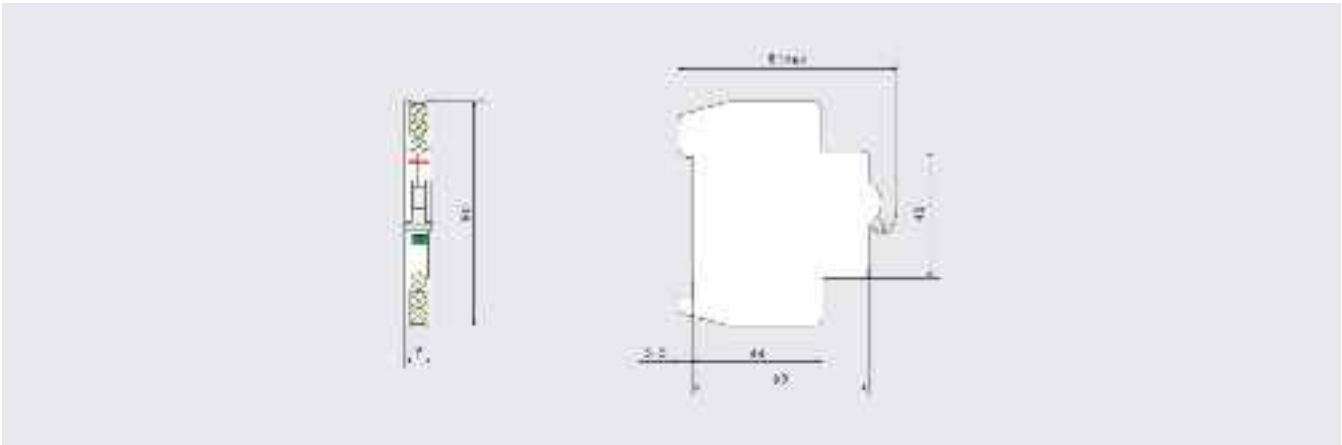
2. H8B-F auxiliary contacts



3. H8B-FL shunt strips, H8B-GY overvoltage releases, H8B-QY undervoltage releases, H8B-GQY overvoltage/undervoltage releases



4. H8B-FB auxiliary alarm contacts



VIII. Ordering Information

Please specify the model, rated current value, tripping type, number of poles, and quantity of circuit breakers when ordering.
 E.g. H8B-63 Miniature Circuit Breaker, with rated current of 40 A and tripping type of C, 3 poles, and 100 sets is denoted by H8B-63/3 C40 100 sets.