MINIATURE CIRCUIT BREAKERS

- Overload protection
- Fireproof and flame retardant
- Short circuit protection



CB CE TÜVRheinland









KNS3-63F7A
Miniature Circuit Breaker

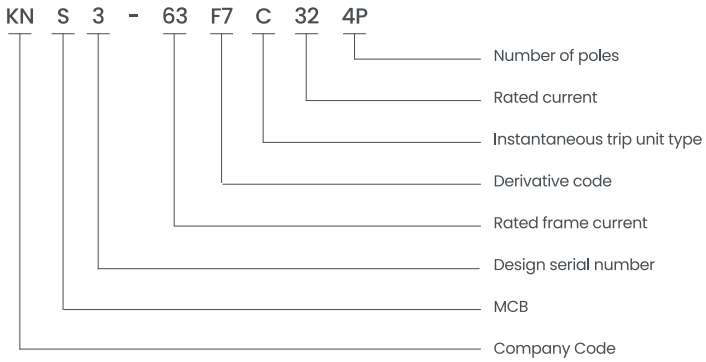
Scope of application

The **KNS3-63F7A** series miniature circuit breakers feature short-circuit protection, overload protection, and control functions. They can also be used for infrequent switching of lines and equipment under normal conditions.

These products are suitable for low-voltage terminal power distribution in industrial, commercial, high-rise and residential, energy, telecommunications, and infrastructure sectors, with AC 50/60Hz, rated voltage of 240/400V, and rated current up to 63A. They offer wide applicability, high stability, long service life, and excellent short-circuit and overload protection.

Product conforms to standard: **IEC60898-1**.

Model Meaning



Working conditions

- Ambient air temperature: Upper limit not exceeding +40°C, lower limit not lower than -5°C, 24-hour average not exceeding +30°C;
- Altitude: Installation site altitude not exceeding 2000m; for higher altitude applications, derating is permitted according to IEC 61439 Special Environmental Conditions for Low-Voltage Electrical Appliances Used at High Altitudes;
- Atmospheric conditions: Relative humidity not exceeding 50% at +40°C; higher relative humidity is permissible at lower temperatures; ambient air temperature **55**°C, relative humidity ≤95%;
- Resistance to damp heat: Monthly average minimum temperature of the wettest month not exceeding +25°C, monthly average maximum relative humidity not exceeding 90%, taking into account condensation on the product surface due to temperature changes;
- Pollution degree: Level 3;
- Location free from significant vibration and impact;
- Installation category: **II, III**;
- Installation method: TH35-7.5 type mounting rail;
- Installation conditions: Inclination of the mounting surface from the vertical plane not exceeding 5°.

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Main technical parameters

Project	Parameter
Rated Voltage (V)	AC 240/400V (1P, 2P), AC 400V (2P, 3P, 4P)
Rated Current (A)	1A, 2A, 3A; 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Number of Poles	1P, 2P, 3P, 4P
Rated Operating Short-Circuit Breaking Capacity Ics	6kA
Rated Ultimate Short-Circuit Breaking Capacity Icu	6kA
Rated Insulation Voltage Ui	500V
Rated Impulse Withstand Voltage Uimp	6kW
Instantaneous Detachment Characteristics	B, C, D
Mechanical and Electrical Life (cycles)	20,000 cycles
Electrical Life	6,000 cycles
Protection Class	IP20

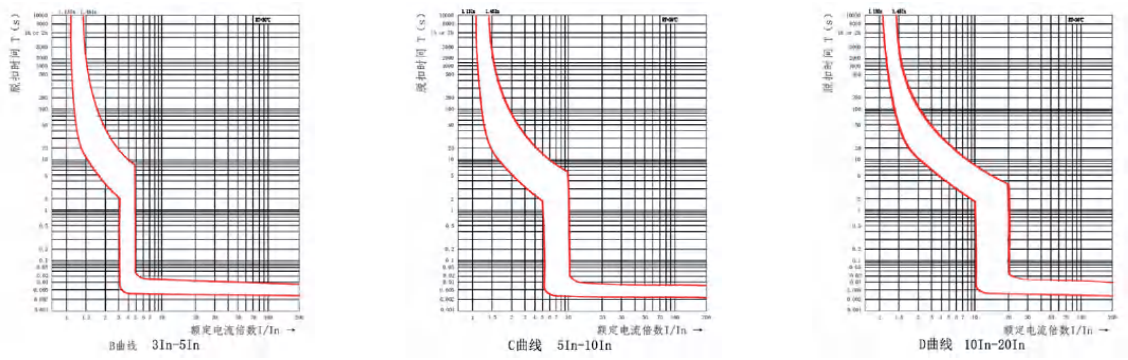
Overcurrent protection characteristics

Remarks	Trip Unit Rated Current (A)	Initial State	Test Current	Trip or Non-Trip Time Limit	Expected Result	Remarks
1	≤63A	cold state	1.13In	t≤1h	Not out of mouth	-
2	≤63A	Following the previous test	1.45In	t<1h	Snap	The current steadily rises to a fixed value within 5 seconds.
3	In≤32A	cold state	2.55In	1s<t<60s	Snap	-
	In>32A			1s<t<120s		
4	≤63A	cold state	5In	t<0.1s	Not out of mouth	Type C
			10In	t<0.1s	Snap	
			10In	t<0.1s	Not out of mouth	Type D
			20In	t<0.1s	Snap	

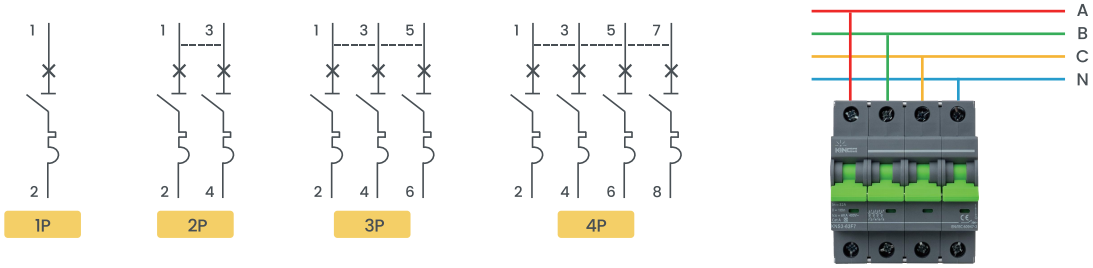
* The term "cold state" refers to a test conducted without a load and at the reference calibration temperature.

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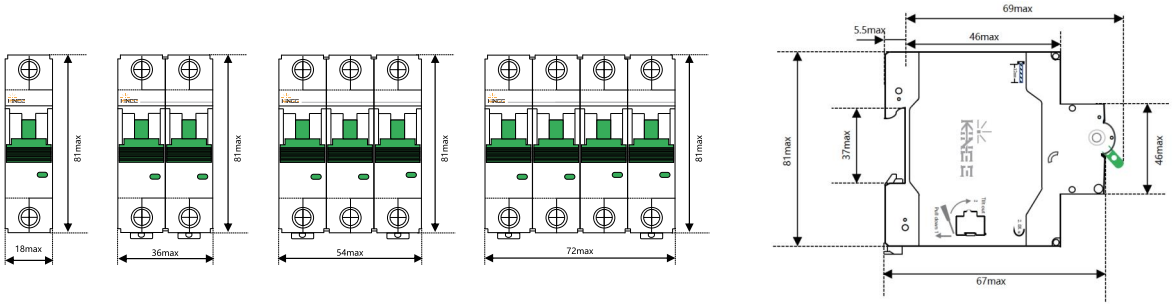
Release curve diagram



Wiring diagram



Appearance and installation dimensions(mm)



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Operation and Precautions

operate

1. The procedure for installing a circuit breaker is as follows:

2. When the circuit breaker is installed vertically, push the handle to the "I" position to close the circuit breaker; push the handle to the "0" position to open the circuit breaker.

Precautions

1. You are solely responsible for any quality issues arising from unauthorized disassembly of the product.

2. Do not touch any exposed non-insulated parts of the circuit breaker while it is powered on.

3. Do not arbitrarily adjust the characteristics of the circuit breaker. The manufacturer will not be responsible for any product quality issues arising from such adjustments.

4. Ensure reliable wiring to prevent abnormal heating at the terminals from causing malfunctions or burnt-out terminals.

Select the conductor cross-sectional area (mm²)

* The wiring is suitable for copper wires of 25mm² and below (see table below). The wiring method is to tighten the wires with screws with a torque of 2.0 N·m.

Rated current In (A)	Nominal cross-sectional area of copper conductor (mm²)	380V power	220V power	load
1~6	1	3.35KW	1.32KW	Lighting
10	1.5	5.59KW	2.2KW	
16、20	2.5	8.95KW	3.52KW	Lighting, Sockets
25	4	13.9KW	5.5KW	Sockets
32	6	17.9KW	7.04KW	Air Conditioner
40、50	10	27.9KW	11KW	Main Switch
63	16	35.2KW	13.8KW	Main Switch

Ordering Instructions

When ordering, you must specify the circuit breaker model, number of poles, rated current, and instantaneous trip unit characteristic type; for example: **KNS3-63F/7A three-pole circuit breaker**, instantaneous trip unit characteristic type C, **rated current 20A**, quantity 1000 units, then it should be written as: **KNS3-63F/7A 3P C20 1000 units.**

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