



JD-5 Series
Motor Protector

User Instruction

Safety Warning

- ① Only professional technicians are allowed for installation and maintenance.
- ② Installation in any damp, condensed-phase environment with inflammable and explosive gas is forbidden.
- ③ When the product is being installed or maintained, the power must be switched off.
- ④ You are prohibited from touching the conductive part when the product is operating.
- ⑤ The product shall be stored, installed and used in accordance with the rated control power supply voltage and specified conditions indicated in the user instructions.
- ⑥ The products shall be properly wired in strict accordance with the wiring diagram.

1 Use Purpose

JD-5 series motor protector (hereinafter referred to as the protector) is mainly used for overload and loss of phase protection of continuous duty or non-continuous duty AC motor with AC frequency of 50Hz, rated insulation voltage below AC690V and rated operating current of 0.5A~400A.

2 Main Technical Parameters

Table 1 Ambient Conditions

Normal use conditions	Ambient temp.: -5°C~+40°C; average value within 24h not exceeding +35°C; altitude not exceeding 2,000m.
Atmospheric conditions	RH shall not exceed 50% when maximum temperature is +40°C; in case of lower temperature, higher RH is allowed. Measures should be taken against occasional condensation due to temperature change.
Installation category	III
Transport and storage conditions	-25°C~+55°C

Table 2 Product Specifications and Main Technical Parameters

Model	JD-5/5	JD-5/20	JD-5/80		JD-5/200	JD-5/400
Rated current (A)	5	20	80		200	400
Current setting range (A)	0.5~5	2~20	20~80	1~80	80~200	160~400
Appropriate motor power (kW)	0.25~2.5	1~10	10~40	0.5~40	40~100	80~200
Installation method	Equipment type					
Setting method	Knob					
Display method	LED					
Protection functions	Overload, loss of phase					
Number of contacts	1 NO				1 change-over	

Table 3 Main Circuit Technical Parameters

No.	Product Model	JD-5 /5	JD-5 /20	JD-5 /80	JD-5 /200	JD-5 /400
1	Rated insulation voltage U_i (V)	690				
2	Rated control power supply voltage $U_s(V)$, frequency (Hz)	AC220V, AC380V, 50Hz				
3	Allowable fluctuation range of rated control power supply voltage	85% U_s ~110% U_s				
4	Rated impulse withstand voltage $U_{imp}(kV)$	4				
5	Rated limited short-circuit current (kA)	30				
6	SCPD type	Type 2				
7	SCPD model	RT36-00/10	RT36-00/40	RT36-00/160	RT36-3/400	RT36-4/800
8	Enclosure protection class (if applicable)	IP00				
9	Size of terminal tightening screw (or nut)	M3				
10	Torque of terminal tightening screw (N·m)	0.5				
11	Pollution class	Class 3				
12	Rated duty	8h duty or uninterrupted duty				
13	Electromagnetic environment	Environment B				

Table 4 Auxiliary Circuit Technical Parameters

No.	Product model	JD-5/5, JD-5/20, JD-5/80, JD-5/200, JD-5/400	
1	Rated insulation voltage U_i (V)	415	
2	Rated impulse withstand voltage U_{imp} (kV)	2.5	
3	Agreed free air heating current I_{th} (A)	5	
4	Rated operating voltage $U_e(V)$	240	415
5	Use type under rated operating voltage and rated operating current $I_e(A)$	AC-15	
		1.5	0.95
6	SCPD model	RT36-0/6A	

2.1 Performance characteristic

2.1.1 For performance characteristic of balanced three phase load, please refer to Table 5.

2.2.2 For performance characteristic of unbalanced three phase load, please refer to Table 6.

2.2 Reset characteristic

After action, there will be a power-off reset on the protector.

Table 5 Performance characteristic of Balanced Three Phase Load

No.	Multiple of setting current	Operation time	Initial state	Ambient temp. °C
1	1.05	No tripping within 2h	Cold	+20
2	1.2	Tripping within 2h	Hot	
3	1.5	Tripping within 2min	Hot	
4	7.2	$2s < T_p \leq 10s$	Cold	

Notes: The tripping level of protector is 10A.

Table 6 Performance characteristic of Unbalanced Three Phase Load

No.	Multiple of setting current		Operation time	Initial state	Ambient temp. °C
	Any of the two phases	The third phase			
1	1.0	0.9	No tripping within 2h	Cold	+20
2	1.15	0	$\leq 5s$	Hot	

Notes: The above multiple is the ratio of current going through the wire hole of the protector to the setting current of the protector.

3 Installation

3.1 Outline and installation size: see Figure 1, Figure 2, unit: mm.

3.2 Protector wiring diagram: see Figure 3, Figure 4.

3.3 Commissioning process: Turn each of the two adjustment knobs on the panel of the protector fully clockwise until it stops. Check the circuit, make sure it is free of error, then connect the power supply. Press Start button and the motor starts to run. The green light is on when the motor is

operating normally; the red light is on when there is loss of phase; and the yellow light and green light are flashing alternatively when there is overload. When the operation becomes normal, turn the current adjustment knob counterclockwise until the overload alarm indicator light flashes, then turn the knob clockwise until the alarm indicator light no longer flashes. Turn the time delay knob counterclockwise to set the delayed period of time for the motor start (longer period is preferred). After the motor operates normally, the alarm indicator light will be off. Load the motor manually until there is sign of overload, then commissioning process is completed.

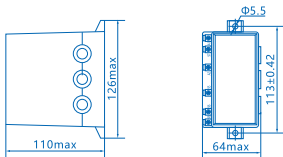


Figure 1 Outline and installation size of protector with rated operating current below 80A

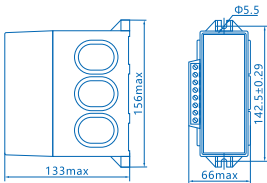
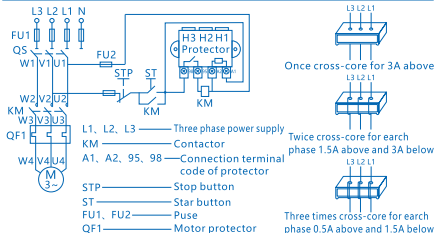
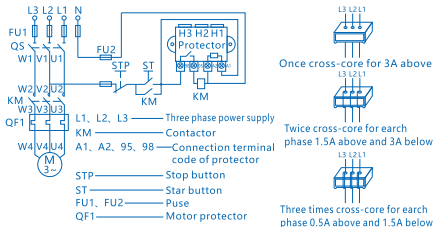


Figure 2 Overall and installation size of protector with rated operating current above 80A



Notes:

- 1) If the motor stops during its operation, the motor should be checked for loss of phase or overload. To prevent accidents, do not force the motor to start without fixing the problem.
- 2) Check the performance of the protector on a regular basis. Perform overload and loss of phase testing. The testing should be performed by professional

technicians, and electricity safety should be observed.

- 3) One protector can only be used to protect one motor.
- 4) Phase-loss protection is only applicable to the phase loss of current going through the wire hole of the protector, and is not applicable to the phase loss on the high voltage side of the transformer.
- 5) For motor with current below 3A, pull the cords of the three-phase power supply through the wire hole of the protector in the same direction for several turns to ensure the minimum signal current going through the wire hole of the protector multiplied by the number of turns should be bigger than 3A.

4 Maintenance

4.1 The terminal of the protector should be tightened on a regular basis.

4.2 Avoid squeezing the product; the product should be stored in a well-ventilated place.

4.3 For equipment that may cause material economic losses or personal safety, safety measures such as secondary circuit protection should be taken.

Table 7 Fault Analysis and Troubleshooting

Symptoms	Cause analysis	Troubleshooting method
The indicator is not on	Check if wire and terminal are securely connected and the power connection is correct.	Connect wires according to the product manual.
Once the protector is connected to power, the relay is reset due to overload protection.	Check if the rotation positions of the setting current knob and time delay knob of the protector are proper.	Commission according to the product manual, and confirm if the rotation positions of the setting current knob and time delay knob of the protector are proper.
The motor stops during operation.	Check if the motor has lost phase or overloaded.	Determine if the setting current of the protector is proper based on the actual current of the running motor; check if there is any fault in the main circuit.

5 Environmental Protection

In order to protect the environment, the product or product parts should be disposed of according to the industrial waste treatment process, or be sent to the recycling station for assortment, dismantling and recycling according to local regulations.

CHINT

QC PASS

JD-5 Series
Motor Protector
IEC/EN 60947-4-1

JDQ Check 10

Test date: Please see the packing

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JD-5 Series Motor Protector User Instruction

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