JD-5A Integrated Motor Protector

1. General

JD-5A Integrated Motor Protector (hereinafter referred to as protector) is applicable for overload, phase-failure and three-phase current unbalance protection of AC motor @ A.C.50Hz, less than AC690V rated insulation voltage and 1A~400A rated operating
current for its continuous working or discontinuous working. Protector and AC contactor are generally used cooperatively.
This product meets the requirements of IEC 60947-4-1.

2. Type designation

JD - 5 □ / □□

- Supply voltage
- Code of setting current
- Derived code
- Design consequence number
- Integrated motor protector

3. Operating conditions

3.1 Altitude ≤2000m.

3.2 Ambient temperature Range:-5℃~ +40℃, with daily average≤+35℃.

3.3 Atmospheric condition: when the highest temperature is +40℃, relative humidity of air shall be no more than 50%, higher relative humidity shall be allowable at lower temperature, for instance air humidity may reach 90% at +20℃. As for dews, which contigently appear due to change of temperature, special steps should be taken

3.4 Pollution Level: Level 3.

3.5 Inclination between installation plane and vertical plane shall≤±5°.

3.6 At places without explosive risk, without gases that may be corrosive to metal or gases that may cause damage to the insulation, and with little conducting dust.

3.7 At places where rain & snow proof facilities are equipped with and not being full of steam.

3.8 At places without prominence rock, impact and vibration.

3.9 Installation Category: Ⅲ.

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4. Technical data

Table 1

Type	Setting current range (A)	Voltage of control power supply (Supply Voltage) (V)	Suitable motor power (kW)
JD-5A/80	1~5	220V, 380V	0.5~2.5
JD-5A/80	5~20	220V, 380V	2.5~10
JD-5A/80	20~80	220V, 380V	10~40
JD-5A/400	80~200	220V, 380V	40~100
JD-5A/400	160~400	220V, 380V	80~200

Control circuit: rated insulation voltage AC380V, rated frequency 50Hz, contact parameters refer to Table 2.

Table 2

Use type	AC-15	
Rated operating voltage (V)	240	380
Rated operating current (A)	1.5	0.95
Conventional thermal current (A)	5	

5. Design features

5.1 Three-phase electronic type, trip class is level 10A, 10, 20 and 30.

5.2 Equipped with function of phase-failure, overload and three-phase unbalance protection.

5.3 Digital dial-up setting with high precision

5.4 Digital current display.

5.5 Three indicators indicate normal, overload and phase-failure (three-phase current unbalance) status respectively.

5.6 Main circuit adopts feed-through wiring.

5.7 Installation mode: bolts.

6. Protection features

6.1 Operation characteristics under phases balanced-load status (see Table 3)

6.2 Operation characteristic under phase-failure status

Operation characteristic under phase-failure status should meet the requirement: operation time of protector ≤5s

$$\frac{\mathrm{Max}_{i=1}^{3}\left|I_i - I_{avg}\right|}{I_{avg}} \times 100\% > 40\%$$

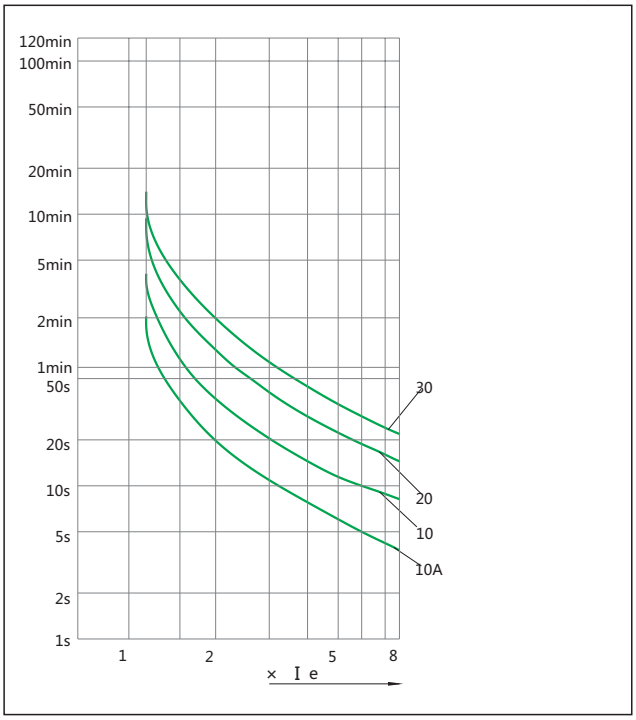
Where:

I_i---The r.m.s value of each phase

I_{avg}---The average current of thee-hase current

6.3 Tripping feature

Figure 1



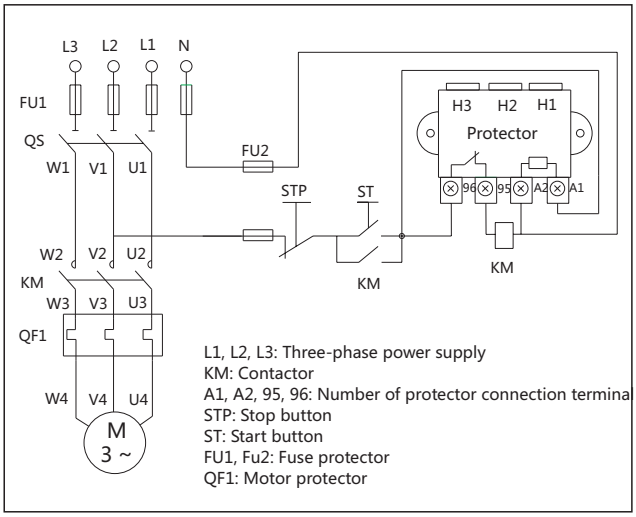
S.N.	I/In	Trip class	Operation time	Test condition	Ambient temperature
1	1.05	10A	<2h non-tripping	start from cold status	20±2
		10			
		20			
		30			
2	1.2	10A	<2h tripping	Right after item No.1	
		10			
		20			
		30			
3	1.5	10A	<2min	Start after putting one time of setting current through main circuit for 2h	
		10	<4min		
		20	<8min		
		30	<12min		
4	7.2	10A	2s<Tp≤10s	start from cold status	
		10	4s<Tp≤10s		
		20	6s<Tp≤20s		
		30	9s<Tp≤30s		

6.4 Reset mode: De-energizing reset.

7. Wiring diagram

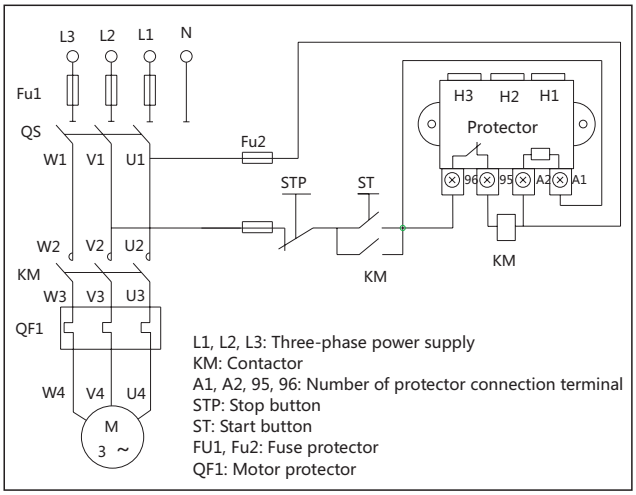
7.1 See Figure 2 for wiring diagram of control power supply @ AC220V voltage.

Figure 2



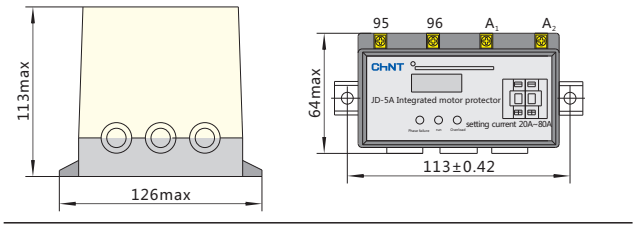
7.2 See Figure 3 for wiring diagram of control power supply @ AC380V voltage.

Figure 3

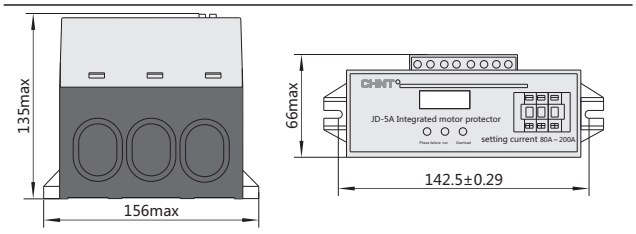


8. Overall and mounting dimensions (mm)

JD-5A/80



JD-5A/400



9. Ordering information

9.1 Designation and type-specification of protector, select controlling current and voltage (AC220V, AC380V, setting current range (1A~5A, 5A~20A, 20A~80A, 80A~200A, 160A~400A), Trip class (10A, 10, 20, 30) according to operating requirements. Trip class in routine order is level 10.

9.2 Order Quantity.

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