

# YCQD7 Series integrated star delta starter

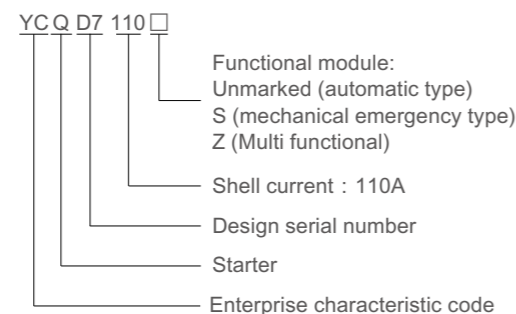


## 1 Applicable scope

The YCQD7 series intelligent integrated star delta starter (hereinafter referred to as the starter) is suitable for three-phase squirrel cage induction motors with AC 50Hz, rated voltage of 380V/400V, and rated working current of up to 110A (phase current when the starter is delta connected), controlling power up to 90kW. It is used to control the start, operation, and stop of the stator winding from star to delta conversion, in order to reduce the impact of starting current and motor starting on the transmission network.

The starter adopts a modular design and integrated structure, integrating contactors, intelligent controllers, and auxiliary contacts. The intelligent controller can automatically control the starter to run according to the predetermined program, thereby completing the star delta starting of the motor.

## 2 Model and meaning



## 3 Main technical parameters and functions

Parameter	Unit	YCQDC-110						
Rated working current :Ie(AC -3)	A	65	75	85	95	100	110	
Rated working voltage :Ue	V	380V/400V						
Rated insulation voltage: Ui	V	800						
Number of poles	P	3						
Mechanical lifespan	Automatic/multifunctional	10000 times	60					
	Mechanical emergency (manual operation)	second	3000					
Suggest controllable operating power of three-phase squirrel cage motor (AC-3)	kw	45	45	55	55	75	75	
Supporting fuse body	A	NH1-125						
Ability of wiring terminals to connect wires	mm <sup>2</sup>	35			50			
Coil parameters	Rated control voltage Us	V	220V/230V					
	pull-in voltage	%Us	80% ~110%					
	Release voltage	%Us	20% ~75%					
	Coil suction	VA	230					
	Maintain power	VA	19					

Function	Automatic type	S mechanical emergency type	Z multifunctional
Star Triangle Conversion	■	■	■
Adjustable star running time	■	■	■
Mechanical emergency (manual forced start)	-	■	-
Overload protection	-	-	■
Locked rotor protection	-	-	■
Phase loss protection	-	-	■
Three-phase imbalance protection	-	-	■
Overvoltage protection	-	-	■
Undervoltage protection	-	-	■
Trouble display	-	-	■
Fault alarm	-	-	■
Status display	-	-	■
Communication function	-	-	□

Annotation : — Indicates not possessing , □ Indicating optional options , ■ Indicating standard configuration

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## 4 Normal working and installation conditions

- 4.1 The altitude of the installation site shall not exceed 2000m.
- 4.2 The upper limit value of the normal operating environment temperature shall not exceed +40 °C, the lower limit value shall not be lower than -5 °C, and the average temperature value within 24 hours shall not exceed +35 °C; When the ambient temperature exceeds the range, users need to negotiate with the manufacturer.
- 4.3 Vertically installed starters have power terminals facing upwards and load terminals facing downwards; The inclination angle between the installation surface and the vertical surface of all starters shall not exceed ± 5 °, which does not affect their performance.
- 4.4 No abnormal vibration or impact.
- 4.5 Pollution level: Level 3.
- 4.6 Fixation method: screw installation.

## 5 Structural features and working principles

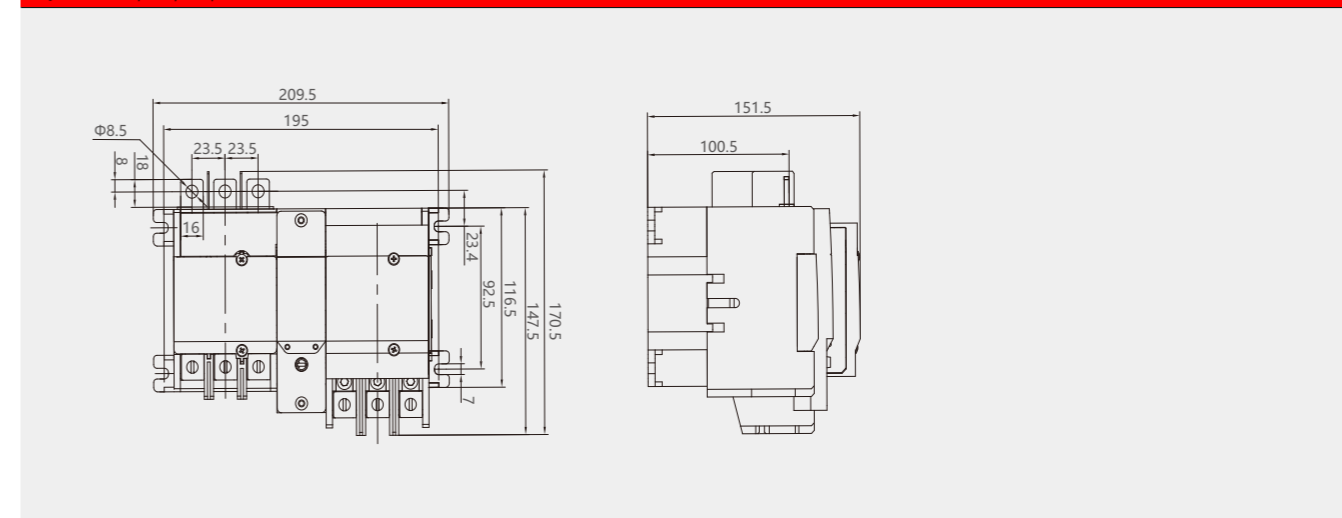
**Star Delta Start:** When the control coil is energized with a 220V control voltage, the main contactor of the product closes, forming a star circuit with the star contactor. The motor starts running at reduced voltage. When the operating time reaches the set switching time and the motor speed approaches normal speed, the main contactor automatically disconnects and then simultaneously closes with the angle contactor, forming a triangular circuit, and the motor runs at full voltage.

**Mechanical emergency:** When the signal line or the control line of the fire pump control box malfunctions, making it impossible to automatically or manually start the fire pump, the mechanical emergency start device on the fire pump control box door can be used to manually close the main and corner contactors of the fire pump to start the fire water pump.

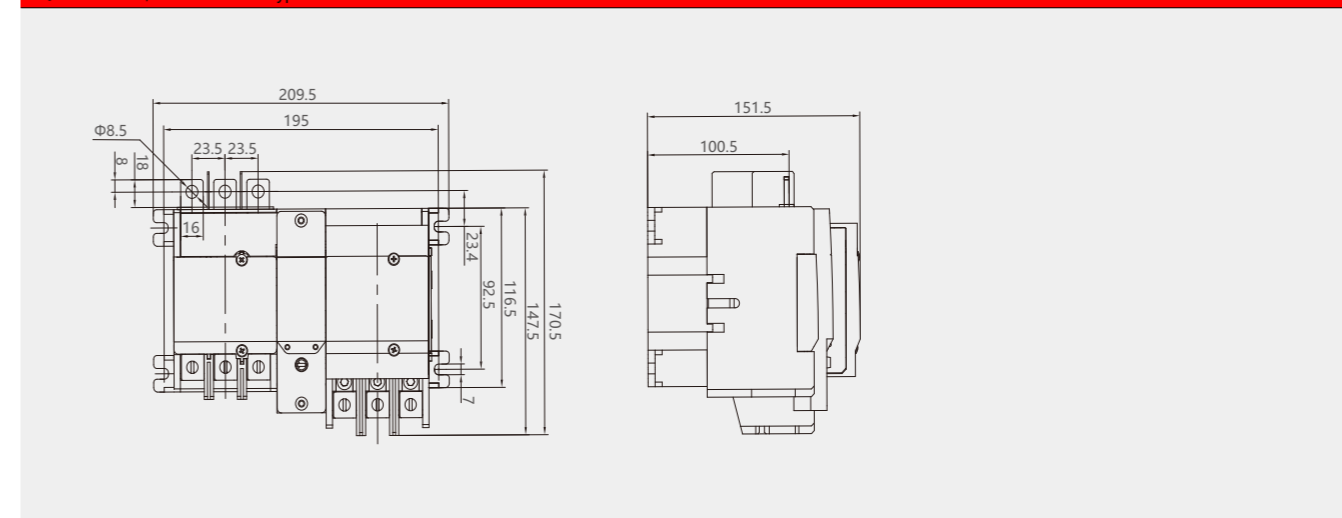
## 6 Appearance and installation dimensions

### 6.1 Automatic Star Delta Starters

YCQD7-110 65A, 75A, 85A, 95A automatic models



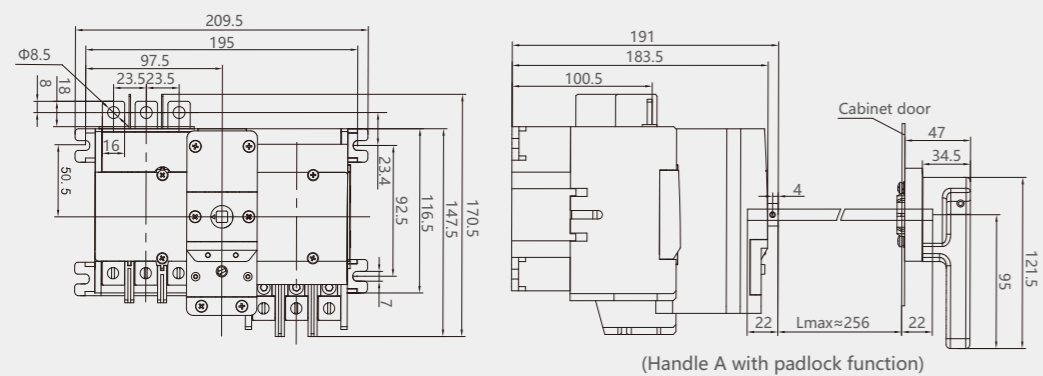
YCQD7-110 100A, 110A automatic type



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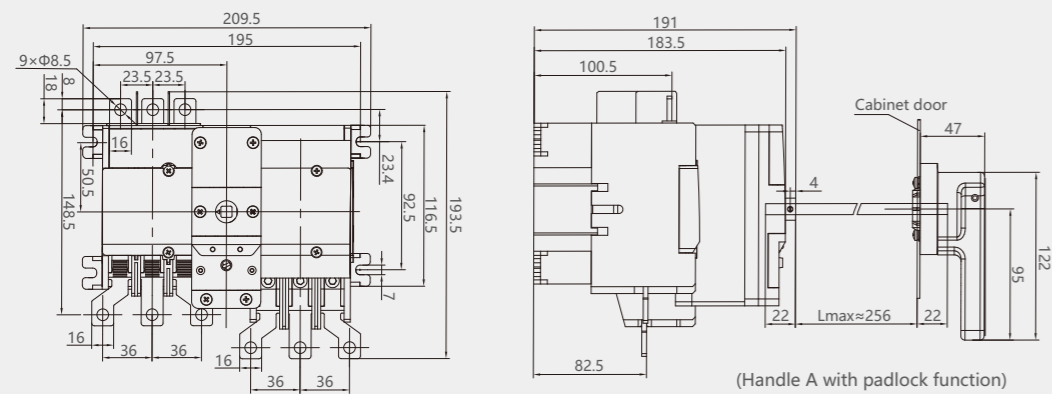
## 6.2 Mechanical emergency star delta starter

### YCQD7-110 65A, 75A, 85A, 95A mechanical emergency type

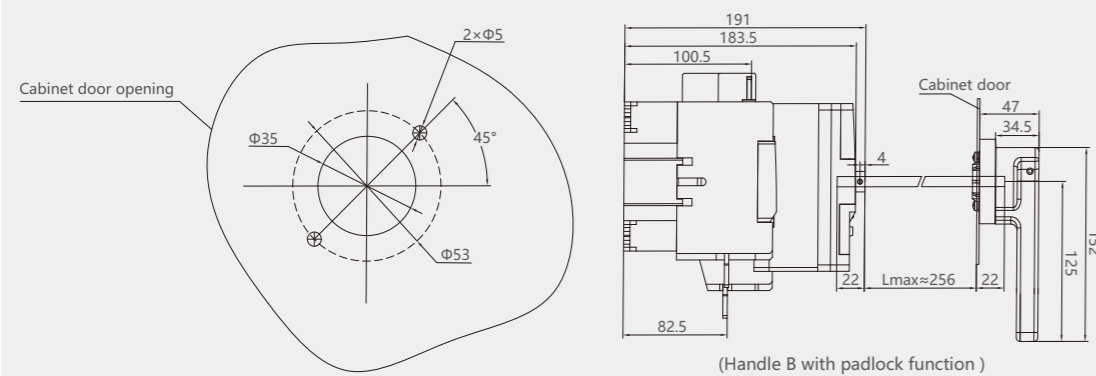


Number	External dimensions	Handle length
1	Handle A with padlock function	L=122mm
2	Handle B with padlock function	L=152mm
3	Equipped with lock function C	L=140mm

### YCQD7-110 100A, 110A mechanical emergency type

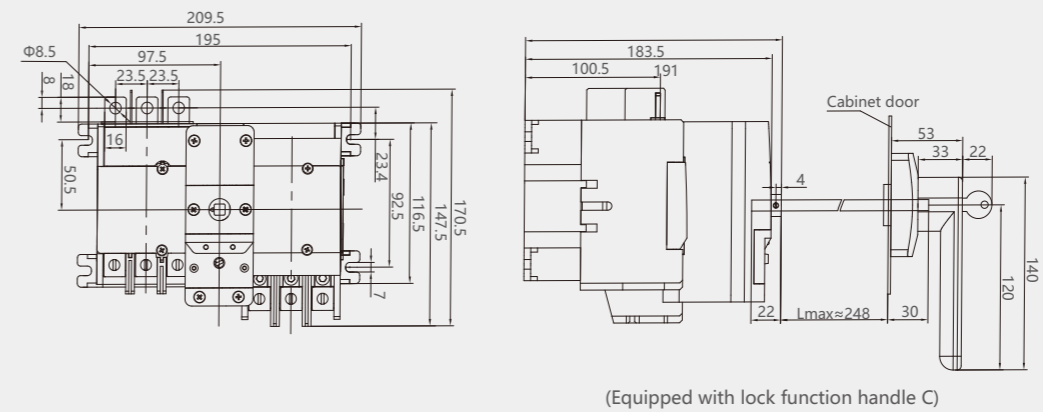


### Opening diagram of handle A and B with padlock function

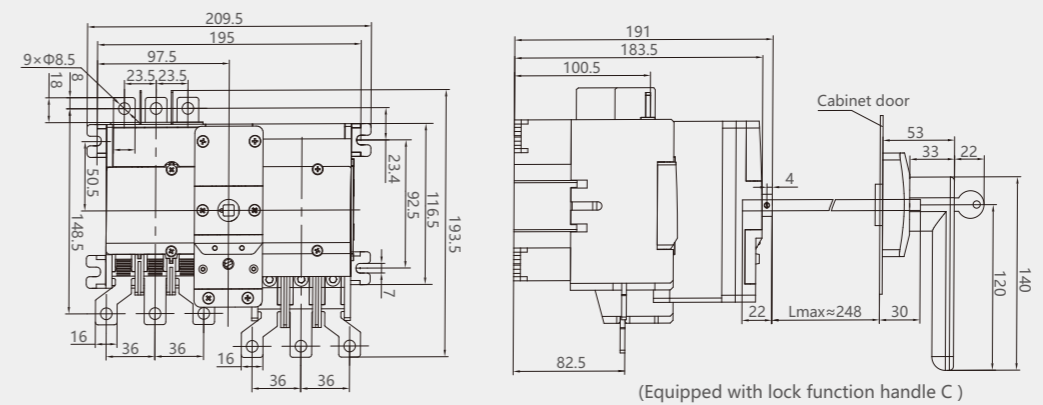


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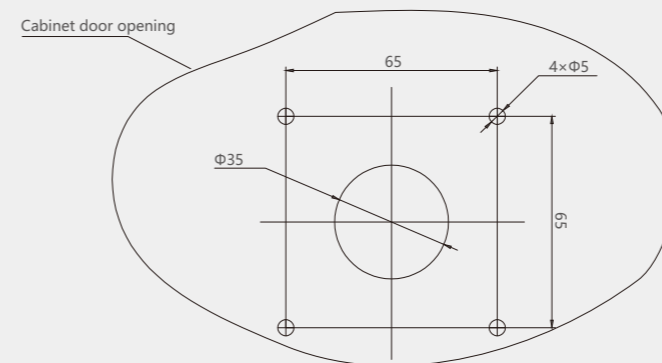
## YCQD7-110 65A, 75A, 85A, 95A mechanical emergency type



## YCQD7-110 100A, 110A mechanical emergency type



### Opening diagram of handle C with built-in lock function



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## 6.3 Multifunctional Star Delta Starters

YCQD7 multifunctional model

