

## ZQP 组合起动屏 Group starter panel

### 概述

#### Overview



ZQP型组合起动屏（又称马达控制中心）是适用于船舶电网中多个三相异步电机的控制设备，具有过载、短路等保护功能；

配置电机集中监控装置的智能型起动屏（配有智能化电机管理模块），具有遥控、遥调、遥测功能，实现组合起动屏的分散布置和集中管理。

产品满足国内外船级社规范、船舶行业标准及国家标准。

ZQP Group starter panel (also named motor control center) is a kind of control equipment used to operate multiple three-phase asynchronous motors in the ship power systems with overload, short circuit and other protection functions;

The intelligent group starter panel configured with motor centralized control unit (intelligent motor management module) can realize the motor remote control, regulation and telemetry, which can realize the dispersive arrangement and centralized management of the group starter panel.

The product meets the requirements of specifications of domestic and foreign ship classifications, shipbuilding industry standard and national standard.

### 产品特点

#### Product features

##### 固定式组合起动屏： Fixed group starter panel:

- 结构紧凑，有效利用机舱空间；  
With a compact structure, making efficient use of cabin space;
- 选用公司标准RF31柜型，外形美观；  
Adopting the company's RF31 type standard cabinet, with nice appearance;
- 起动屏内部各个起动单元分隔，每个起动单元配置单独的门；  
The starter panel is divided by starting units, and each starting unit is equipped with a separate door;
- 集中管理，维修方便，在不切断总电源的情况下，可更换支路元器件；  
Centralized management and easy maintenance, capable to replace the branch components in the case of not cutting off the total power supply;
- 通过配置变频器和压力、温度传感器等，可组成节能系统。  
After the VFD, pressure sensor and temperature sensor are configured, the energy-saving system can be formed.



##### 抽屉式组合起动屏：

Drawer type group starter panel:

- 对于各种规格的抽屉采用统一的操作界面；  
Adopting an unified operating interface for the drawers of different types;
- 所有抽屉都具有试验位置，保证了起动单元的可测试性；  
All drawers are provided with the testing location to ensure testability of the starting unit;
- 单独的一、二次隔离插接系统，安全可靠；  
Separate primary and secondary isolation plug system, safe and reliable;

##### 智能型组合起动屏：

Intelligent group starter panel:

- 智能型组合起动屏采用 CAN 或 PROFIBUS-DP通信方式，可将电机运行状态、故障等信息向上位机发送，同时可接受上位机的控制指令；  
Intelligent group starter panel adopts CAN or PROFIBUS-DP communication, can send motor running status, fault and other information to the host computer, and can accept the host computer control instructions;

- 模块化功能组件可任意组合；  
Modular function components enable arbitrary combination;
- 灵活又安全，操作简单，更换时间短。  
Flexible and safe, simple operation and short replacement time.

- 起动屏的控制电路模块化、标准化程度高。  
High modularity and standardization degree of the control circuit of the starter panel.

### 产品组成

#### Product composition

ZQP型组合起动屏由断路器、控制变压器、熔断器、接触器、按钮及指示灯等元器件组成。可配置如下功能：

ZQP Group starter panel includes breaker, transformer, fuse, contactor, button, indicator light, and so on. Following functions can be selected:

- 外部遥控接口（标配1个）  
External remote control interface (standard 1)
- 电流表和计时器（选配）  
Ammeter and timer (optional)
- 电机空间加热控制旋钮（选配）  
Motor space heating control knob (optional)
- 外部自动控制接口（选配）  
External auto control interface (optional)
- 自吸装置控制（选配）  
Self-priming device control (optional)
- 智能化电机管理控制模块（选配）  
Intelligent motor management module (optional)
- 应急切断接口（选配）  
Emergency shutdown interface (optional)

## 技术指标

### Technical index

■ 工作电压: ≤AC690V (±10%)

Working voltage: ≤AC690V (±10%)

■ 工作频率: 50/60Hz

Working frequency: 50/60Hz

■ 电机功率: 0.37kW-900kW

Motor power: 0.37kW-900kW

■ 可选择的标准尺寸见下表:

Standard sizes that can be selected are shown in the following table:

固定式选型

Fixed type selection

型号 Model	电机功率 Motor power	外形尺寸mm Outline dimensions (mm)			备注 Remarks
		宽 W (A)	高 H (B)	深 D (C)	
ZQPT-10L	≤15kW	1000	1800	500	Fig.1
ZQPT-10L	≤30kW	1000	2000	500	
ZQPT-6L	37~45kW	1000	1800	500	

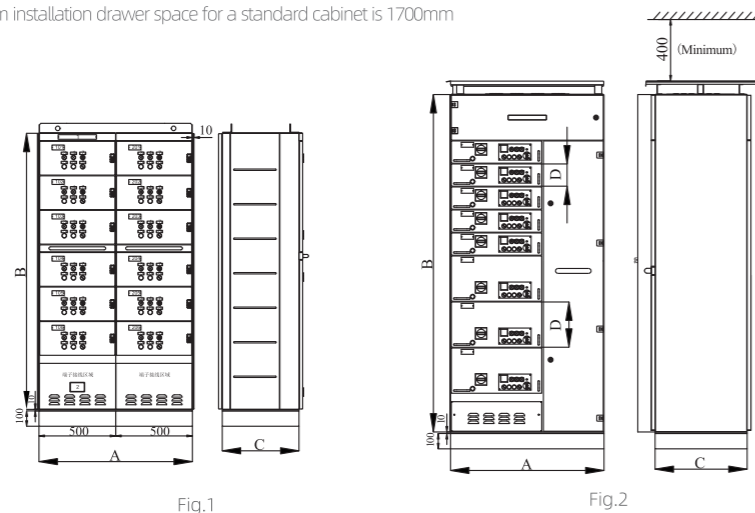
抽屉式选型(柜体选型)

Drawer type selection (Cabinet selection)

类别 Category	外形尺寸mm Outline dimensions (mm)			备注 Remarks
	宽 W (A)	高 H (B)	深 D (C)	
板前接线柜体 Cabinet of front-accessible wiring	1000	2200	600	Fig.2
板后接线柜体 Cabinet of rear-accessible wiring	600	2200	800	

备注: 标准柜体最大可安装抽屉空间总高为1700mm

Note: the total height of maximum installation drawer space for a standard cabinet is 1700mm



抽屉式选型(起单元选型)

Drawer type selection (Starting unit selection)

启动方式 Start mode	电机功率 Motor Power	抽屉高度D Drawer height( mm)
直接启动 Direct start	≤18.5kW	150
	18.5~75kW	300
	75~90kW	400
	90~110kW	500
星三角启动 Star delta start	≤22kW	200
	22~45kW	300
	45~132kW	500
	132~200kW	700

## 型号命名

### Model naming

组合启动屏 (马达控制中心)

Group starter panel (motor control center)

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类型 T:固定式常规型; Z:固定式智能型; C:抽屉式常规型; S:抽屉式智能型

Types: T: fixed common; Z: fixed intelligent; C: drawer common; S: drawer intelligent

启动单元数

Number of starter units

安装形式 B:壁挂式; L:落地式

Installation mode: B: wall-mounted; L: floor type

防护等级 3:IP23; 4:IP44; 5:IP55

Protection grade: 3: IP23; 4: IP44; 5: IP55

## 选型说明

### Selection description

尺寸为框架尺寸, 不含门板封板厚度, 不含底座和吊装尺寸, 特定要求需根据客户提供技术数据定制。

The size means the frame size, without the thickness of the door plate, excluding the base and hoisting part. Specific requirements can be customized according to the customer's technical data.

例: ZQPT-3B4表示固定式组合启动屏, 3个启动单元, 壁挂式, IP44。

It means: Fixed group starter panel, three starting units, wall-mounted, IP44.