

# ZD204 Power Charging cabinet



## Products description and application

Designed as charging equipment for rechargeable battery of port machinery (Quay cranes, Yard cranes), special for charging battery of diesel engine.

## Features

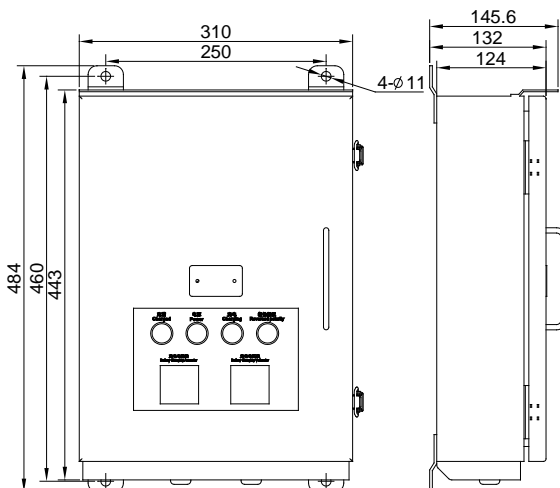
- High frequency PWM Pulse Width Modulation technology
- Three stage automatic charging process, constant voltage charging, constant current charging, float charging
- Modular design, easy maintenance
- Over temperature protection and over current protection
- Lightning surge protection and short circuit protection
- Reverse connect protection

## Main Specifications

Electrical		Mechanical	
Input voltage	AC110V~AC120V/AC220V~AC240V/ AC460V	Cabinet material	Cold rolled plate with powder coating
Current output	DC24V/20A(For 24V/200AH rechargeable battery)	color	grey (RAL7038) ●
Frequency	50Hz/60Hz	Operating temperature	Ta-30℃~+70℃
Ambient humidity	10% ~ 95% (no condensation)	IP rate	IEC60529 IP54
		Weight	11.4kg

## Mounting dimensions

Unit: mm



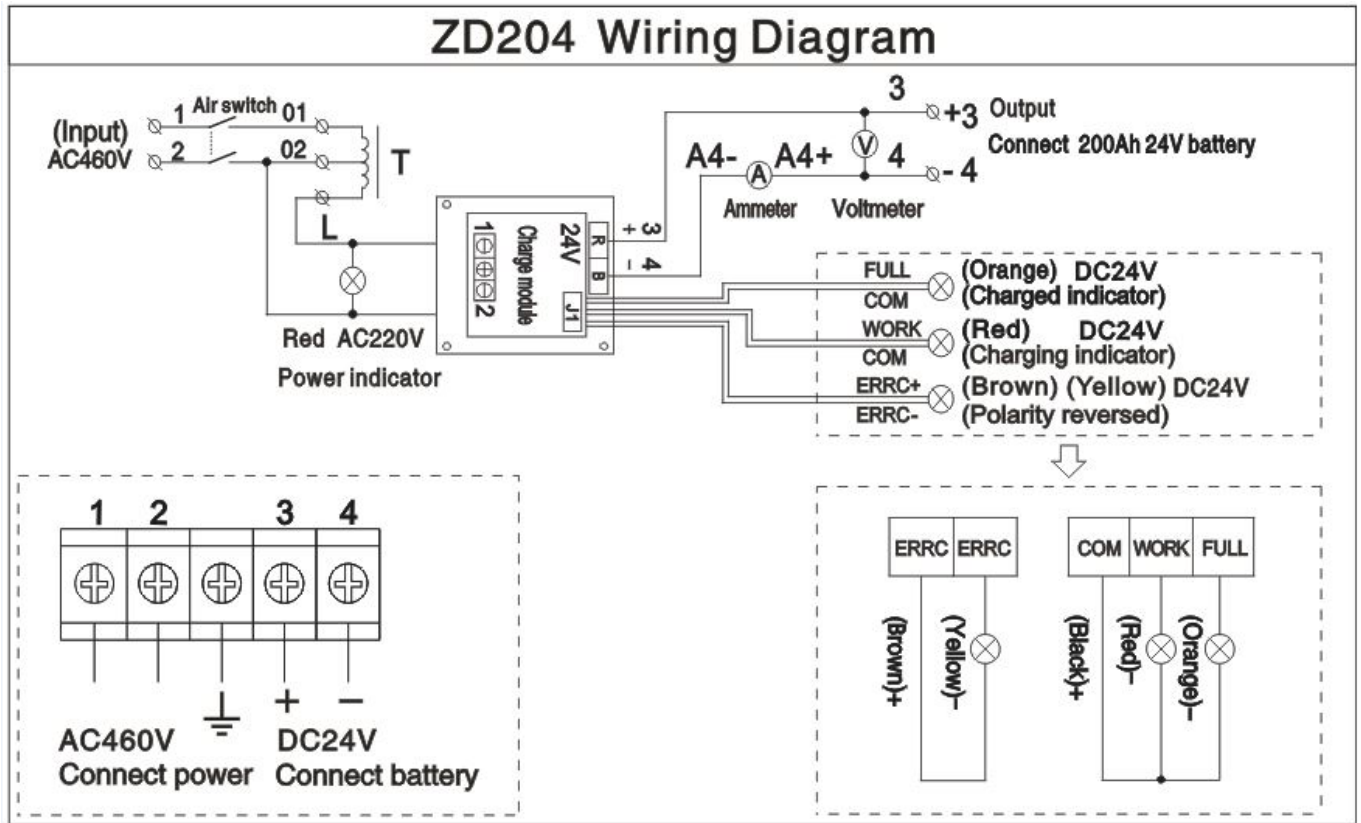
## Installation and operation

- Ensure the input voltage is correct.
- Fix product on mount surface by using four sets M10 screws, ensure mount surface is flat and has enough mechanical strength.
- Connect power line and load line through the cable gland, refer wiring diagram to connect the wires.
- Ensure power line and load line connection is correct before power on.

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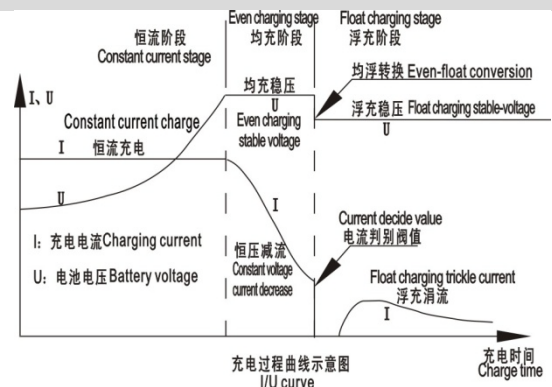


## Wiring diagram



## Charger principle and charger circuit

2A charging current is the threshold value of equalized charging and float charging, equalized charging while above threshold value, float charging while below threshold value. Refer to the drawing on the right, using 20A current to constant charge battery in early stage, when battery voltage achieve to equalized charging stable voltage value (about 29V), it automatic switch to constant voltage tapered charging; when current decrease, achieve to the threshold value of equalized charging and float charging, it automatic switch to float charging (voltage stabilize at 27V), as the battery voltage is higher than charging device voltage stabilize value at this moment, charging current will be zero for a while; it could be confirmed that the battery is fully charged. If keep charging, after a while, there has trickle which maintain float charging. This charge principle use the higher (Equalized Charging) constant voltage to charge the battery fastly, and then use the lower (floating charging) maintained voltage to prevent over charge. It chieves Guard - Free or lighten the work intensity of operators.



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## Troubleshooting table

Symptom	Instruction	Remedy
Fully charged indicator (blue)	Indicator on when battery is fully charged or charging device has no load	
Power indicator (red)	Indicator on when AC220V power on	Check AC220V power if the indicator is off.
Charging indicator (green)	Indicator on means charging circuit is normal operating. (Although fully charged indicator is on, it is continuous trickle charging the battery.)	Check the battery connection if the indicator is off.
Reverse connect indicator (yellow)	Battery output side reverse connect, indicator on.	Check the battery polarity
Charging voltage meter	Show real-time charging voltage	Check AC220V power and fuse if no voltage.
Charging current meter	Show real-time charging current	If no current, it means battery is fully charged or battery is failure, or no AC220V power.

Note: After battery is fully charged, both charging indicator and fully charged indicator lit up, it means product switch to constant voltage trickle charging, no damage to the battery.

## Caution

- Product installation should be away of heat source, water, keep at least 10mm space for heat emission and ensure ventilate.
- Well connect the wires, do not reverse connect.
- Charging switch circuit is well adjusted as requirement before ex-factory, do not adjust it by your own.
- Ensure the charging device is on OFF condition before connecting battery to charging device.

## Order number

Product Code	Model	Input voltage
	ZD204	AC110V~AC120V/AC220V~AC240V/AC460V

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