

AJZ Intelligent shore power pile (shore power junction box)

► Overview

In order to solve the air pollution problem of port terminals, the state is speeding up the construction and transformation of port shore power facilities. Shore power pile is an important component of shore power facilities, and it is the power connecting device to introduce shore power when the ship stops. However, the old generation of shore power piles do not have the functions of communication and digital management, there are no monitoring alarm, incomplete security protection and other problems, resulting in the low utilization rate of shore power for short-term docking ships.

The new generation of intelligent shore power pile has the characteristics of intelligent interaction, safe and efficient, convenient and fast, so as to improve the efficiency of shore power utilization and improve the current situation of low utilization rate of shore power. Intelligent shore power pile is equipped with power fast connection and network communication interface, which has the functions of power supply and distribution, power metering, power monitoring, shunt charging, short circuit, overload, lightning protection, etc. At the same time, for ships without power quick connection plug, shore power adapter box can be provided.

The products are suitable for the new construction and reconstruction of container terminal, dry bulk cargo terminal, general cargo terminal, cruise terminal, RO Ro Terminal, passenger terminal and business ship terminal. Meet the requirements of JTS 155-2019 « Technical specification for construction of wharf shore power facilities » and JTS 155-1-2019 « Technical specification for detection of wharf ship shore power facilities ».

► Product features

- Various installation forms, including wall mounted, horizontal and floor type, can be customized to meet the needs of different occasions;
- Complete safety protection, with lightning, leakage protection, door alarm protection, anti power connector hot plugging measures, emergency stop device and eye-catching safety protection signs;

► Product functions

- Shore power cable protection circuit is set, which has the function of cable overload alarm and protection;
- It has the function of under voltage protection;
- It has the ON / OFF status indication function of electrical connector;
- It has the function of emergency stop;



Fig.1 Emergency stop



- It has the function of output isolation, and the unused power connector remains in the power-off state;
- Data acquisition and upload function: the data acquisition module collects voltage, frequency, current, active power, power factor, power consumption time, power consumption, switch closing and other status information, which is transmitted to the cloud through 4G module or optical fiber network;
- The display screen can display voltage, frequency, current, active power and power in real time Rate factor, power consumption time, power consumption and other information as well as over voltage and over current alarm state alarm and other status information;

- Remote control power supply function, by the client control on or off power switch;



Fig.2 status display



Fig.3 client control main interface

- Online payment function, each socket charges independently, enters the payment system by scanning the code, selects the corresponding socket to power the ship, supports online payment and billing;

► Product composition

The intelligent shore power pile is mainly composed of power connector, circuit breaker, leakage protector, surge protector, display screen, serial port server, input and output module, intelligent meter, emergency stop module, etc. Receiving the shore power supply of the wharf, distributing power to the ship through the circuit breaker and power connector, playing the role of carrying electric energy transmission.



Fig.4 power consumption information interface

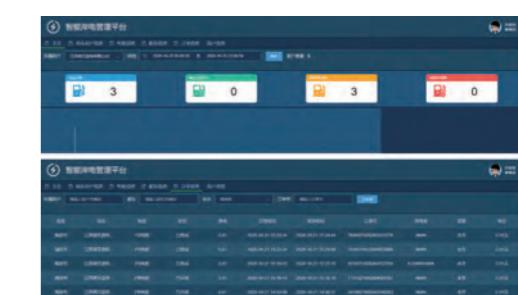


Fig.5 bill management interface



Fig.6 payment completion interface

- With the intelligent shore power management function, the terminal tenants can manage the shore power piles through the PC login server, including the information of power piles, ship owners, order information management, etc. MSA can read the information of terminal tenants, ship owners and orders through login server.

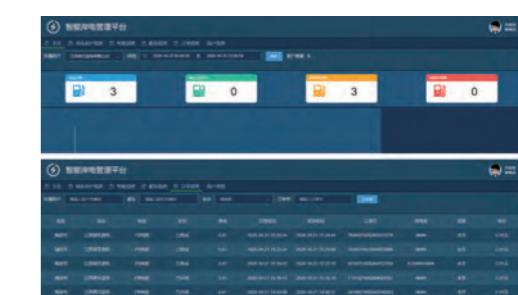


Fig.7 interface of intelligent shore power management platform

► Technical index

- Rated voltage: AC380V±10%
- Frequency: 50Hz
- Rated current: 63A、125A、250A、350A
- Protection grade: : IP56
- Electric energy metering accuracy: not less than 0.2S level
- Working environment temperature
- Installation mode: horizontal, floor and wall mounted
- Product size specification

■ Socket: it has mechanical anti dislocation structure and grounding interlocking device; it has grounding contact and interlocking contact. When the plug is inserted into the socket, the grounding contact can be contacted before other contacts, and the interlocking contact can be contacted after the main contact.

No.	Number of electrical connectors	Dimensions			Remark
		Length	Width	Height	
1	Single	900	700	400	Fig.1
2	Multiple	1200	900	400	Fig.2

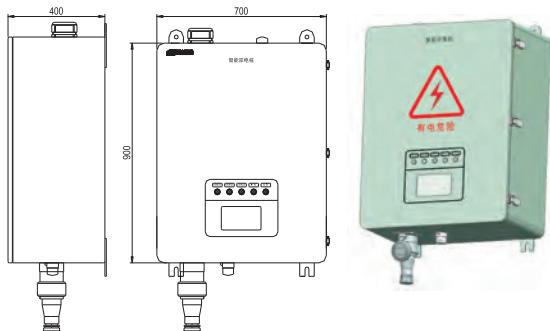


Fig.1 Shape of single socket intelligent shore power pile

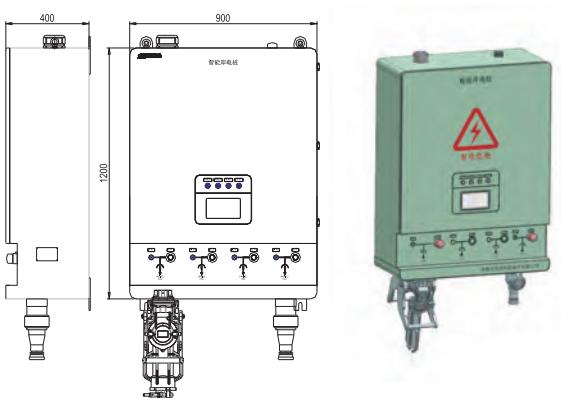


Fig.2 Shape of multi socket intelligent shore power pile

Multi socket intelligent shore power pile (selection table):

Socket specification	350A	250A	125A或63A
Number of sockets	1	-	3
	1	1	2
	-	1	3
	-	2	2
	-	-	4

Optional description: when one 350A socket is selected, up to three 125A or 63A sockets can be configured; when one 350A socket and one 250A socket are selected, up to two 125A or 63A sockets can be configured. Others are similar.

► Model naming

Shore power socket box	AJZ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rated current: 63A,125A,250A,350A				
Rated voltage: Q3:380V/50Hz R3:440V/60Hz				
Box material: B: stainless steel, G cold rolled steel plate				