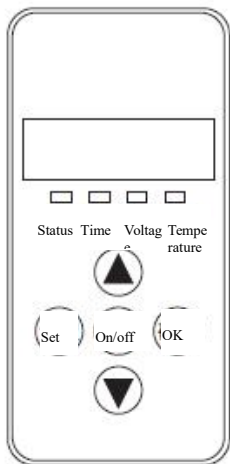


12V-24V Common Digital Panel Operation Instruction



1. Indicators

Status-> Permanently on upon startup, blinking upon the initialization of shutdown, off upon the completion of shutdown

Time-> Permanently on when displaying the time or setting the timed startup or shutdown, and off under other statuses.

Voltage-> Permanently on when displaying voltage or setting the parameters in relation to voltage, and off under other statuses

Temperature-> Permanently on when displaying the ambient temperature or setting the operating temperature, and off under other statuses.

2. Key Function

▲-> Under the setting status, press it to raise the parameter to be set; under the non-setting status, press it to raise the operating temperature to be set

Set-> Enter the setting status to adjust parameters and change the machine's operating status

On/off -> Promptly press it to start up the machine, and the status indicator becomes permanently on; press and hold the key for 2 sec to shut down the machine, and the status indicator becomes blinking

OK-> Under the setting status, press it to confirm the current setting value and proceed to the next parameter to be set; under the non-setting status, press it to view the machine's status

▼ -> Under the setting status, press it to reduce the parameter to be set; under the non-setting status, press it to reduce the operating temperature to be set

3. Description of Setting Parameters (Press the Set Key to Enter)

1. Time setting → Use the up/down → Press the OK key, and consecutively set the Hour (24-hour keys to adjust the system) and the Minute, and press the OK key to proceed to the next parameter



2. Timed startup and shutdown setting → It is off by default, displaying 1-OFF; press the up arrow key to activate it, displaying 1-on → Press the OK key to consecutively set the first group of startup/shutdown time values and the second group of startup/shutdown time values, and then press the OK key again to proceed to the next parameter



Admin password input → Press the up/down arrow keys, and when the correct value appears, press the OK key to proceed to the next digit. After all four digits are input correctly, press the OK key again to proceed to the next parameter



3. Pump oil volume setting → Press the up/down keys to modify the minimum pump volume, and press the OK key when the required value is set → For the maximum pump oil volume setting, use the up/down arrow keys to modify it as required, and then press the OK key to proceed to the next parameter



4. Fan revolution → Press the up/down arrow keys to modify the → For the maximum fan revolution

speed setting minimum fan revolution speed, and press the OK key when the required value is set speed setting, use the up/down arrow keys to modify it as required, and then press the OK key to proceed to the next parameter



5. Operating voltage setting ➔ **The main board's operating voltage can only be adjusted under the shutdown status.** Press the up/down arrow keys to switch the operating voltage to the 12V system (displaying U-12) or to the 24V system (displaying U-24). **(Before startup, please check whether the oil pump, the motor and the ignition plug are suitable to each other, to avoid damage)**



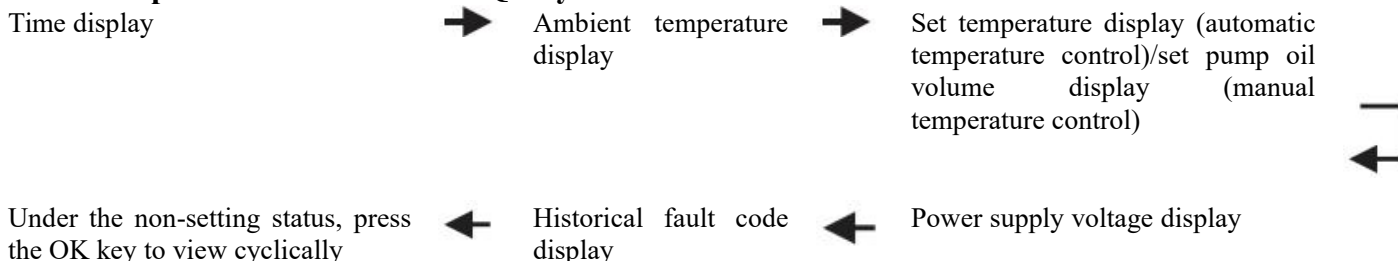
6. Revolution speed signal selection Press the up/down arrow keys to set the revolution speed signal. Select 1 if the vane wheel has two magnets with the opposite polarity or has only one magnet. Please select 2 if the vane wheel has two magnets with the same polarity. If the parameter is incorrect, 1-fold speed error will occur.



7. Admin password modification By default, the OFF status is displayed. Press the OK key if no modification is needed, to skip the password modification and automatically quit after saving the parameters. Press the up arrow key, and when the ON status is displayed, press the OK key to enter the modification status, and input a 4-digit new password, and press the OK key again to save the new password and the adjusted parameters for automatic quit.

Note: after all parameters are set, you must press the OK key to quit and save the set parameters. If you quit by pressing the Set key, the parameters will not be saved. Please carefully check each digit of the new password, and keep it in mind so that you can use it to change parameters next time.

4. Description of Machine Status Query



5. Manual Fuel Filling Description

Under the non-setting status, first press and hold the down arrow key, and then press the OK key simultaneously to enter the manual oil pumping interface. When H-OFF is displayed, first release the OK key, and then release the down arrow key. Press the up arrow key to activate manual oil pumping, H-ON will be displayed and you will hear the oil pumping noise. Simply press the down arrow key or the Set key to deactivate it and quit the manual oil pumping.

6. Timed Startup/Shutdown Description

After setting the run time, press the OK key to enter the timed startup/shutdown setting function. By default, OF indicates the off status, and please press the up arrow key to activate the ON status, then you can press the OK key the set the first group of values, with the hour and minute values for the startup to be set first, and secondly enter and set the hour and minute values for the shutdown if the values for the startup are set. Then, press the OK key to enter the second group of values, with similar setting measures as those of the first group. You may specify an interval between the two groups of values. The timing function can only be performed once upon each setting, i.e. if the set timing values are performed, they will be invalid, and you need to reactivate the timing function and set new values for the timing.

7. Temperature Control Mode Switchover Description

Under the non-setting status, first press and hold the up arrow key, and then press the Set key simultaneously, if the panel displays P-xx (xx indicates pump oil volume), it indicates that you have entered the manual temperature control mode and the pump oil volume for operation is restrained within a range between the current pump oil volume and the initial pump oil volume. When you press the above mentioned keys simultaneously and the panel displays xx °C (xx indicates temperature value), it indicates that you have entered the automatic temperature control mode and the pump oil volume for operation is restrained within a range between the maximum pump oil volume and the initial pump oil volume. Under the two modes, the automatic changes of pump oil volume both depend on the variation of the temperature, but the difference between the two modes is that, under the automatic mode, the pump oil volume can reach the maximum value set for the parameter, which leads to higher temperature of the machine; under the manual mode, the pump oil volume is limited to the current setting value and can not reach the maximum value set for the parameter, thus the equipment's temperature is limited to the selected range, which is more adaptable to certain old-fashioned drivers.

Fault Code Description

Machine fault	Status display	Solution
Undervoltage power source	Panel display E-01	Raise the power supply voltage
Overvoltage power source	Panel display E-02	Reduce the power supply voltage
Ignition plug fault	Panel display E-03	Check whether the ignition plug is open-circuit or short-circuit
Oil pump fault	Panel display E-04	Check whether the oil pump is disconnected or short-circuit
Machine overheat	Panel display E-05	Check the temperature sensor on the shell, or check whether the fan revolution speed is abnormal
Motor fault	Panel display E-06	Check the polarity of the magnet and the position of the Hall sensor.
Disconnection fault	Panel display E-07	Check the connecting plug to the panel, and verify whether the connection of the blue communication line is abnormal
Flame extinguishment	Panel display E-08	Check whether the oil line has any air or whether it is obstructed. Check whether the shell temperature sensor is malfunctioning, or whether the contact of the socket terminal is abnormal.

The contents in the table are subject to the digital panel. Faults of the panel with remote control function are identical with the description in the above table. Faults of the panel with knob control are identical with the description in the above table, but the display mode of fault is indicated by the times of blinking of an indicators.