COVER

1.Features:

We first welcome you to choose Hongtong Motor's smart frequency converter for HPP Series

Smart frequency converter for HPP Series water pump is a frequency converter specializing in AC asynchronous motor's water pump,which can control water pump's V/F and FOC.The smart frequency converter for water pump is easy debugging and has big starting torque.

This manual offers you detail explanation of parameter and related operation instruction.Please read this manual carefully before installing,running,maintaining,checking frequency converter for HPP Series water pump for your first use.

There are some belowed features for this product function

- Data Check----Can check current power,frequency and so on
- Easy to speed adjustment---quickly adjust in three gear,inching rotation with up-down button
- Protection for lack of water ----Can stop running automatically if lack of water in inlet pipe.
- Start for water coming---Can check whether there is water coming or not during water shortage shutdown stage
- Memory for power lost---Can automatically record percentage of rotation and switch condition

Caution

1、Constant pressure pump should be used in tide,dry,good ventilation place.

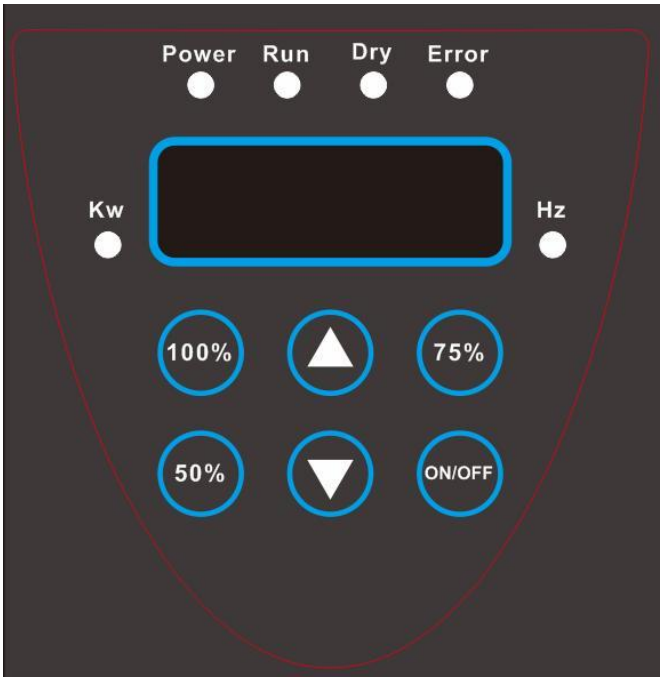
2、Water coming into control box,overheat or too cold may cause machine's damage

3、Please note safety use electricity when operating,Wet hands operation is banned.

4、If without fan,then please make sure the fan at the end of motor can blow cooling fin,in order to avoid overheat.

5、Matched use motor of water pump is three phase inductive and adopts triangular connection and pay attention to ground safe

2.Operating panel



English stick

3.Indicator lights and keyboard instructions

Name	Function
Power	● light is always on after plug on
Run	● light is always on when pump runs
Dry	● flashing when water shortage in inlet
Error	● flashing when error happens
Kw	● input power
Hz	● Hertz
100%/ Menu	■ please press 100% hertz to run when run shortly ■ Extended press to enter parameter mode extended press in non-parameter mode ■ Short press to return to previous menu
50%/Confirmation	■ press 50% hertz to run when running time is short ■ Final confirmation of function code or parameter
Up	■ add 1% hertz when running time is short ■ Increase progressively of function code or data
Down	■ reduce 1% hertz when running time is short ■ Reduce progressively of function code or data
75%/Change	■ press 50% hertz to run when running time is short ■ Extended press can change showing in run/stop condition.

OnOff	■ Press button to stop when runs.If water shortage,remove information of water shortage ■ Press button to start when stops

4.Parameter amendment setting

Step 1	Extended press Menu to enter parameter set mode and show function code
Step 2	Press Up/Down to change into amended function code.press Confirmation to amend,press Menu to return previous
Step 3	Press Up/Down to adjust specific parameter.press Confirmation to keep,press Menu to return previous

Remark 1:Press “Menu” and “Confirmation”to return previous Menu when changes specific parameter.The difference of both:When press “Confirmation” to return,setting parameter will be kept.When press “Menu” to return,setting parameter will not be kept.

Remark 2:When set data,if do not press Confirmation or Menu,it will return to Running/Stop interface in 10 seconds and do not keep setted data.

5.Technical Parameter List

Function Code	Function Declaration	Factory Default	Parameter Description
F00	Max Frequency setting	60	Default 60hz
F01	Startup &Shutdown	0	Default Shutdown，later the switch setting status will be saved,power off memory
F02	Water shortage checking time	90	Unit:second
F03	Water coming checking time	60	Unit: minute
F04	Antifreeze/rustproof interval	0	When the pump sustain not run with power and water enough, after the time set by the value (in hours), it will automatically run for 1 minute at 30hz. A value of 0 disables this feature.
F05	Speed percentage	100	Defaut full speed operation, power off memory
F06	Model Selection	*	According to the factory setting，Don't to modify！
F07	RPM setting	3000	Setting will be saved，Unit:RPM
F08	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F09	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F10	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F11	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F12	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F13	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F14	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F15	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F16	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F17	Minimum frequency	10	The minimum frequency of the pump running,it is recommended not to modify it!
F18	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F19	Reserved function code	*	The modification is invalid, it is recommended not to

			modify it!
F20	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F21	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F22	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F23	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F24	Reserved function code	*	The modification is invalid, it is recommended not to modify it!
F25	Motor running direction	0	0：clockwise operation，1：counterclockwise operation。Must be set when the motor is stop。
F26	Climbing speed	10	Change the climbing speed of the motor (in hz/s)
F27	Minimum Speed percentage	40	Minimum run to full speed percentage
F28	Water shortage checking	1	0：No check，1:check
F29	40% water shortage power cut-off point	95	water shortage power cut-off point
F30	50% water shortage power cut-off point	155	water shortage power cut-off point
F31	75% water shortage power cut-off point	420	water shortage power cut-off point
F32	100% water shortage power cut-off point	720	water shortage power cut-off point
F33	Rated power	1500	Default 1.5kw
F34	Fixed end code	23205	Fixed end code, can’t be modified

Note: The factory value may be different from the data in the manual, which is normal.

6.Error Code description

Error code	Error type	Possible cause of error	Solution
E0	Driver board EEPROM failure	EEPROM damaged	Change EEPROM, Seeking technical support
E1	communication fail	The communication between the control board and the driver board is abnormal.	Contact the manufacturer for technical support
E2	Pressure sensor failure	Bad contact of the pressure sensor interface, pressure sensor damaged	Check if the interface is loose change a new pressure sensor
E9	Main control board	EEPROM damaged	Restore factory settings or

	EEPROM failure		contact after sales
P0	IPM module overcurrent protection	UVW phase-to-phase short circuit	Check for short circuit between UVW three phases
P1	Current sampling fault	There is a problem with the current sampling circuit	Contact after sales
P42	Motor start failure	Motor damage Mechanical failure rotor locked running	check the motor if it is damaged or not Contact mechanical failure
P43	Phase loss protection	UVW disconnected from a certain phase	Check the UVW three-phase wiring and loose the interface.
P46	Stall protection	Large deviation between feedback speed and set speed	Is it blocked? Or contact after sales
P47	Overspeed protection	Feedback speed too high	Restore factory settings or contact after sales
P48	Soft start failure	Inverter failed to start	Restore factory settings or contact after sales
P49	Motor overcurrent protection	Motor current is too big	Does the motor match the inverter model or not? Is the pump UVW three wire sequence reversed? Or contact after sales
P50	Main line voltage is too low protection	Input voltage is too low There is a problem with the sampling circuit	Check if the input voltage is too low
P51	Main line voltage is too high protection	Input voltage is too high There is a problem with the sampling circuit	Check if the input voltage is too high
P60	IPM module low temperature protection	Ambient temperature is too low	The temperature is too low, the components are not working properly
P61	IPM module overheat protection	Insufficient heat dissipation, module protection	Add fan
P65	Drive overload	Exceeding the rated power of the drive	Replace the more powerful drive
P66	Motor overload	Exceeding motor rated power	Replace the more powerful motor

7.Common fault alarms and countermeasures

Fault phenomenon	Possible cause of failure	Solution
No display after power on	Input power is abnormal Dashboard cable	Check the input voltage or if the wiring is connected correctly

	disconnected Rectifier bridge or switching power supply failure	Check the cable Contact after sales
The motor does not turn after power-on	Feedback pressure is greater than the set pressure Is the motor damaged or blocked? There is a problem with the driver board UVW output.	Open the valve to reduce pressure Check if the pump is normal Check the driver board or contact after sales
Pump running but without water output	Is there water in the pump chamber? Is there any debris in the water inlet and outlet? Is the motor reversed?	The pump chamber must be filled with water to operate Check the water inlet and outlet for debris If you reverse, please change the UV two to each other.
Frequently display P61	Fan damaged	Check if the fan is damaged, or contact the after sales
After the power is turned on, the pump will start to display P49 or P0.	Check whether the motor is reversed Check whether the UVW line has a short circuit	If reversed, swap UV line sequence If short circuit, please eliminate the open circuit fault Contact after-sales service

Cautions
● When using this product, be sure to install the inverter according to the instructions.。 ● Please follow the instructions。 ● The contents of this manual will be changed in time due to product upgrades or specification changes.。 ● If you have problems that cannot be solved by the instructions during use, please contact our customer service department.。 ● Service Line： ,E-mail：