

Tio APM-8F Series Pump

Intelligent frequency conversion circulation pump. For systems which require a more powerful pump.

Used in HVAC and hot water circulation systems, such as floor heating mixed water systems, air energy hot water circulation systems, solar hot water circulation systems, household cold and hot water circulation and pressurisation systems.



Product Code	Product Description
TIOAPM40-8F-220	40 x 220mm Connection - 8m head
TIOAPM50-8F-240	50 x 240mm Connection - 8m head

1	Pump Body
2	Ring
3	Rotor Set
4	Flat Gasket I
5	Rotor Can
6	Air Release Plug
7	Flat Gasket II
8	Stator
9	Screw
10	Socket Group
11	Back Shell
12	Socket
13	PCB Board
14	Display Panel
15	Middle Plate
16	M4x8 Screw
17	Label
18	Faceplate

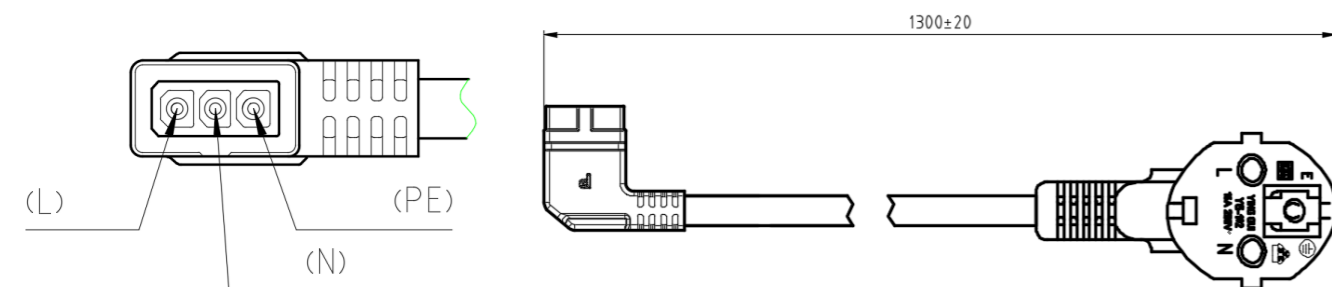
Parameters	Specification
Pump type	Centrifugal circulating pump (nonselfpriming)
Single phase power (AC/DC)	AC
Voltage	230V (10%~+10%)
Frequency	50/60Hz
Max input power	20~320W
Current	0.2~1.6A
IP class	IPX4
Insulation class	Class F
EEl	≤0.23
Max head	8m
Max flow	12.5m³/h
Pipe size	DN40 DN50
Noise	≤50dB

When the pump is installed, the motor shaft must be parallel to the horizontal plane.

Do not run the pump without water.

Water must be clean of impurities such as welding slag and dirt.

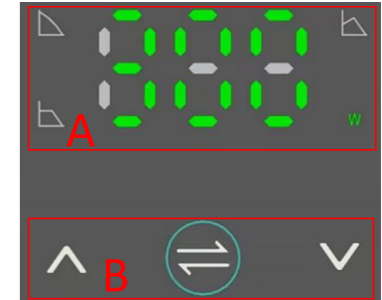
Pump must be installed in a convenient place such as to allowing maintenance or replacement to take place.



Operation and Panel display

After the power is turned on, all the green LED lights in area A flash 4 times.

Overview of the panel pictured to the right.



Gears are shown in the table below:

Mode	Function	Gear	Panel Display
Constant Speed	In this control mode, the pressure difference between the two ends of the electric pump is controlled by the flow rate.	CS Gear 13	
Constant Pressure	In this control mode, the pressure difference between the two ends of the electric pump remains constant, independent of the flow rate.	CP Gear 15	
Proportional Pressure	In this control mode, the pressure difference between the two ends of the electric pump is controlled by the flow rate.	PP Gear 15	

Troubleshooting:

Fault	Panel Display	Pump Status	Solution
Temperature Protection	E18	Warning, pump shut down. Start when temperature returns to normal.	Remove
Undervoltage Protection	E04	Warning, pump shut down. Start when voltage restored.	Voltage exception elimination
Locked Rotor	E07	Try to restart. Failure to start will display warning and stop the pump.	Clear blockage
Phase Loss	E06	Try to restart. Failure to start will display warning and stop the pump.	Pump replacement
Software Overcurrent	E02	Try to restart. Failure to start will display warning and stop the pump.	Pump replacement
Hardware Overcurrent	E01	Try to restart. Failure to start will display warning and stop the pump.	Pump replacement