

EN Original instruction

Frequency inverters VT5000 series

Functions

1. With the resting state and Awaken Function.
2. With the function of Antifreeze and waterproof.
3. Alarm for watering: With the alarming function for HO,LO,LP
4. The feedback value and target value can be displayed simultaneously on the panel.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Technical data

1. Selectable V/F, sensorless vector control.
2. Motor parameter auto-tuning (turning).
3. 150% torque at 0.5Hz.
4. 0.1 ~ 400Hz frequency output.
5. 1 ~ 15kHz carrier frequency.
6. 0 ~ 10 VDC analog input.
7. IP65 enclosure.
8. Selectable manual/automatic torque boost.
9. Built-in potentiometer.
10. Selectable PNP/NPN input signal.
11. Fault history: last 5 faults.
12. Enhanced process PID control.
13. MODBUS RTU communication.

These products conform with the basic safety requirements of EC directive: 2014/35/EU LVD (low voltage directive), 2014/30/EU EMC (electromagnetic compatibility). The following standards have been applied: EN 61800-3:2004/A1:2012, EN 55011:2009/A1:2010, EN61000-6-2:2005, EN 61800-5-1:2007 and marked with the CE sign.

Terminal Description

Name of the terminal	Instruction	Remark
S1	Multi Function of Input Terminal P315	Multifunctional Terminal S1-S4 can setting according to the P315-P318,when the terminal is cut with DCM/GND , it can worked effectively
S2	Multi Function of Input Terminal P316	
S3	Multi Function of Input Terminal P317	
S4	Multi Function of Input Terminal P318	
DCM/GND	Digital Signal of Public Terminal	
P24/+24V	DC24V	Maximum 100mA
10V	Frequency Setting Power	
AI /FIV	The Analog Voltage of Input Terminal	0~10V/0-20mA
ACM/COM	Analogous earth terminal	
MA,MB	Output Terminal (NO)	250VAC/3A
RA, RB	Output Terminal (NO)	250VAC/3A
SG+, SG-/RS+,RS-	RS485 communication	

Table 1

Wiring diagram

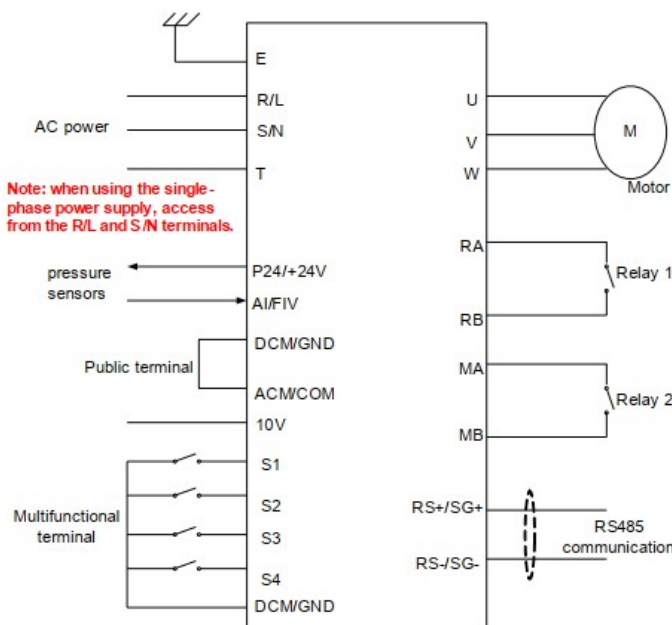


Figure 1

Protection class: IP65.

Note: The arrangement and name of terminals on the control board shall be in kind!

**Function parameters**

Parameter	Code	Name	Instruction Of The Setting Range	Minimum Unit	Value From Factory
Basic parameter	P000	Boot display options	0-32 (7 is the PID feedback value)	1	0
	P101	Frequency setting selection	0-5 0 : Digital frequency setting	1	0
	P102	Run settings selection	0 : Keyboard start 1 : I/O start 2 : communicate start	1	1
	P103	Stop key is valid	0 : Invalid 1 : Valid	1	1
	P104	Stop key is valid	0 : Invalid 1 : Valid	1	0
	P105	Maximum frequency	0-400.0Hz	0.1	50.00
	P107	Acceleration time	0-999.9s	0.1	change
	P108	Deceleration time	0-999.9s	0.1	change
	P201	Stop mode selection	0-1	1	1
Input Terminal	P300	The lower limit of the AI/FIV	0-P301	0.1	0.0
	P301	The Top limit of the AI /FIV	0-10.0	0.1	10.0
	P315	S1 Terminal	0: No effective 1~27: According to instruction 29:Low water level	1	6
	P316	S2 Terminal		1	7
	P317	S3 Terminal		1	29
	P318	S4 Terminal		1	0
Self reset of error	P420	Restart time			5
	P421	Using time of the restart			10.0S
P I D	P600	PID mode of opening	0:OFF 1:ON	1	0
	P601	PID work mode	0: negative feedback 1: positive feedback	1	0
	P602	PID Target Selection	0:P604; 1:AI/FIV	1	0
	P603	PID Feedback Value Selection	0:AI/FIV (4-20mA for P300=1.0V P301=5.0V)	1	0
	P604	The pressure setting of the outlet	0.00-50.00kgf/cm <sup>2</sup>	0.01	5.00kgf/cm <sup>2</sup>
	F605	Alarm For High Voltage	0.00-50.00kgf/cm <sup>2</sup>	0.01	10.00
	F606	Alarm For Low Voltage	0.00-50.00kgf/cm <sup>2</sup>	0.01	0.00
	P607	Value from PID to P	0-200	1.0	100.0
	P608	Value from PID to I	0.1-10.0S	0.1	0.3S
	P609	Value from PID to D	0-1.0S	0.1	0.0S
	P610	PID The length of the each step	0-5.0Hz	0.1	2.0Hz
	P611	Frequency for Resting state	0.0-50.0HZ Frequency for Resting state =0; No function of Resting State	0.1	45.0HZ
	P612	Timing for Resting State	0-200S	1	20S
	P613	The value for resting state and awoken	0-100% Percentage	1	80%
	P614	The range of the pressure sensor	0.00-50.00kgf/cm <sup>2</sup> (10kgf/cm <sup>2</sup> =1MPa)	0.01	10.00kgf/cm <sup>2</sup>
	P620	PID deviation limit	0.0-100.0%	0.1	1.0
	P624	Alarm Time for the Low Pressure Of The Outlet	0-600S	1	100S
	P631	The first 10 times high voltage or low voltage self reset	Interval: 0-6500.0S	0.1	600.0S
	P635	Sleep judgment - frequency change <P635/S, began to judge dormancy			0.5HZ
	P636	Sleep judgment - down frequency allows downward pressure			0.6%
	P637	Sleep judgment - the frequency of descent per second			0.3HZ
	P638	The number of times the frequency of descent is decreased			10 times
	P639	Above this frequency, no dormancy treatment			42.0HZ
	P640	Antifreeze interval time	0-999.9s	0.1	900.0s
	P641	Antifreeze running time	0-999.9s	0.1	30.0s
	P642	Antifreezing selection	0:Invalid 1:Valid	1	1
User parameter groups	P117	Parameter initialization	8	1	0
	P118	Parameter locking	0 : Unlock 1 : Lock	1	0

Table 2

**VT5000 series frequency inverters**

<b>Input: 1x230V 50/60Hz, output: 3x230V 50/60 Hz</b>
Frequency inverter VT5000 0,75kW/230V/IP65
Frequency inverter VT5000 1,5kW/230V/IP65
Frequency inverter VT5000 2,2kW/230V/IP65

**Table 3**

<b>Input: 3x400V 50/60Hz, output: 3x400V 50/60 Hz</b>
Frequency inverter VT5000 0,75kW/400V/IP65
Frequency inverter VT5000 1,5kW/400V/IP65
Frequency inverter VT5000 2,2kW/400V/IP65
Frequency inverter VT5000 3,7kW/400V/IP65
Frequency inverter VT5000 5,5kW/400V/IP65
Frequency inverter VT5000 7,5kW/400V/IP65
Frequency inverter VT5000 11,0kW/400V/IP65
Frequency inverter VT5000 15,0kW/400V/IP65

**Table 4**

**Transport and storage**

All products are packed by the producer for normal transporting conditions. Make sure that the controller does not put the rotary switch downwards. Until final installation store products in a dry place with humidity not more than 70% (20°C), average ambient temperature must be 5 -40°C. The storage place must be covered from water and dirt. Avoid long-term storing. It is not recommended to store products for more than 1 (one) year.

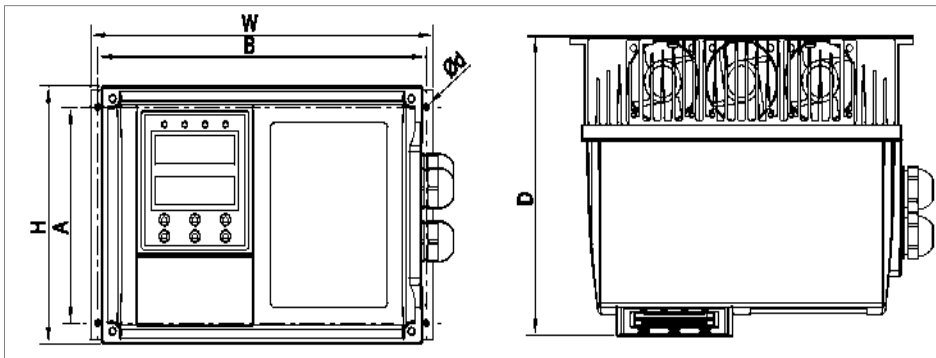
**Maintenance**

The frequency inverter needs no specific maintenance. The housing may be cleaned using a moist cloth. In case of heavy filthiness, clean with non-aggressive cleaners. Pay attention that no fluids get into the frequency inverter. Reconnect mains only after the frequency inverter is completely dry. All electrical connections should be carried out after the supply voltage break by a qualified and authorized electrician according to national and local regulations.

**Warranty**

1. Manufacture declare 2 years warranty term from the date of manufacturers invoice. Warranty is applied in case if all requirements of transporting, storing, installation and electrical connection are fulfilled.
2. In case of damaged or faulty product during warranty term customer must inform producer in 5 days and deliver product to manufacture as soon as possible at customer's costs. In other case warranty is not valid.
3. Manufacture is not responsible for damages which occur during transportation or installation.

**Product selection form**



**Figure 2**



**Figure 3**

**Distributor reserve the right to change technical data.**

**Distributor:**  
UAB Valtronika

Address: Nuklono str. 12, Siauliai, Lithuania  
Phone number: +37068720836  
E-mail: [valtronika@valtronika.com](mailto:valtronika@valtronika.com)  
<https://www.valtronika.com>