

U0-07	Detection Time Of Maintaining Pressure	3~6000	S	30	○	
U0-08	Rest Frequency	0.00Hz~100Hz	Hz	30.00	●	
U0-09	Acceptable Pressure Deviation	0~3.00		1.0	○	
U0-10	Start and Stop controlling Mode	0:Keypad 1:Terminal 2:Communication control		0	○	
U0-11	Memory restart when Power is on	0: No start when power on 1: Restart when power on		1	○	
U0-12	Auto-start delay	0.1~100.0	S	1.0	○	
U0-13	Frequency given	0:U0-14 1:PID 2:Communication		1	○	
U0-14	Preset frequency	0.00~200	Hz	50.00	○	
U0-15	Max.Frequency	5.00~200	Hz	50.00	●	
U0-16	Upper limit Frequency	5.00~200	Hz	50.00	●	
U0-17	Lower limit Frequency	5.00~50	Hz	20.00	●	
U0-18	Acceleration Time	0.1~6000.0	S	4.0	○	
U0-19	Deceleration time	0.1~6000.0	S	4.0	○	
U0-20	Stop Method	0: Stop by deceleration 1: Natural Stop		0	○	
U0-21	Agent Code	0~9999		0	○	
U0-22	Parameters Initialization	0~9999		0	●	11: Restore factory setting 22: Clear up faults

U1 Pump Parameters Group

Function Code	Description	Set range	Unit	Default	Modification Level	Note
U1-00	Water Shortage Detection Options	0: Do not detect 1: By current 2: By voltage 3: By current & voltage 4: Water shortage terminal		2		When water shortage terminal is chosen, U2-10 value should be set to be 11
U1-01	Water Shortage Detecting Pressure	0~60.0	Bar	0.5	○	
U1-02	Water Shortage Detecting Frequency	0.00~100.0	Hz	45.00	○	Only detecting water shortage when running frequency is over set frequency
U1-03	Delay Time For Water Shortage Detection	0.1~999.9	S	50.0	○	
U1-04	Detecting Current For Water Shortage	Depending on motor type	A		○	Applicable for U1-00:1&3
U1-05	High Pressure Alarm Setting Value	0~60.0	Bar	15.0	○	
U1-06	Detection Time For High Pressure Alarm	0.0~200.0	S	3.0	○	
U1-07	Low Pressure Alarm Setting Value	0~60.0	Bar	0.5	○	
U1-08	Detection Time For Low Pressure Alarm	0.0~6000.0	S	60.0	○	
U1-09	Anti-Freezing Function	0: OFF 1: ON		1	○	

U1-10	Running cycle for anti-freezing	3~60000	Min	1500	○	
U1-11	Running Time For Anti-Freezing	0~6000	S	10	○	
U1-12	Anti-Freezing Running Frequency	0.00~100.00	Hz	30.00	○	
U1-13	No. of Automatic Alarm Recovery	0~1000		200	○	
U1-14	Automatic Alarm Recovery Time	0~60000	Min	10	○	
U1-15	Alarm recovery method	0: OFF 1: ON		111	●	

U2 Input & Output Parameters Group

Function Code	Description	Set range	Unit	Default	Modification Level	Note
U2-00	Min. Input V value	0.00~10.00		0.00	○	
U2-01	Frequency For Min. Input V Value	0.0~100.0	%	0.0	○	
U2-02	Max. Input V Value	0.00~10.00		10.00	○	
U2-03	Corresponding Frequency For Max. Input V Value	0.0~100.0	%	100.0	○	
U2-04	V Filter Time Constant	0.01~10.00	S	0.05	○	
U2-05	Min. Input C Va Corresponding Frequency For Max. Input V Value	0.00~20.00		4.00	○	
U2-06	Corresponding Frequency For Min. Input C Value	0.0~100.0	%	0.0	○	
U2-07	Max. Input C Value	0.00~20.00		20.00	○	
U2-08	Corresponding Frequency For Max. Input C Value	0.0~100.0	%	100.0	○	
U2-09	C Filter Time Constant	0.01~10.00	S	0.05	○	
U2-10	Di1 Multi-functional Input Terminal	0: No function 1: Forward running 2: Reverse running 3: Fault 4: Haste stop 5: Restoration 6: PID closed 7: Command by keypad 8: Command by terminal 9: Command by communication 10: Fault input is closed permanently 11: Water shortage input		1	●	11: Water Shortage Input When D11 and GND are disconnected, water shortage alarm will be displayed on the screen.
U2-11	Di2 Multi-functional Input Terminal			0	●	
U2-15	Relay output terminal (TA, TB, TC)	0: No function 1: device on 2: fault 3: FD 4: FDT2 5: Zero 6: Lower limit frequency running 7: Upper limit frequency running 8: Standby mode 9: Sleeping 10: Reach temperature		2	○	
U2-16	Mo multifunctional output option			1	○	
U2-17	Valid input delay for DI1 input terminal	0.0~3600.0	S	0.0	○	
U2-18	Invalid input delay for DI1 input terminal	0.0~3600.0	S	0.0	○	
U2-19	Valid input delay for DI2 input terminal	0.0~3600.0	S	0.0	○	
U2-20	Invalid input delay for DI2 input terminal	0.0~3600.0	S	0.0	○	

Function Code	Description	Set range	Unit	Default	Modification Level	Note
U2-24	Output delay for relay output terminal	0.0~3600.0	S	0.0	○	
U2-25	Output delay for Mo output terminal	0.0~3600.0	S	0.0	○	

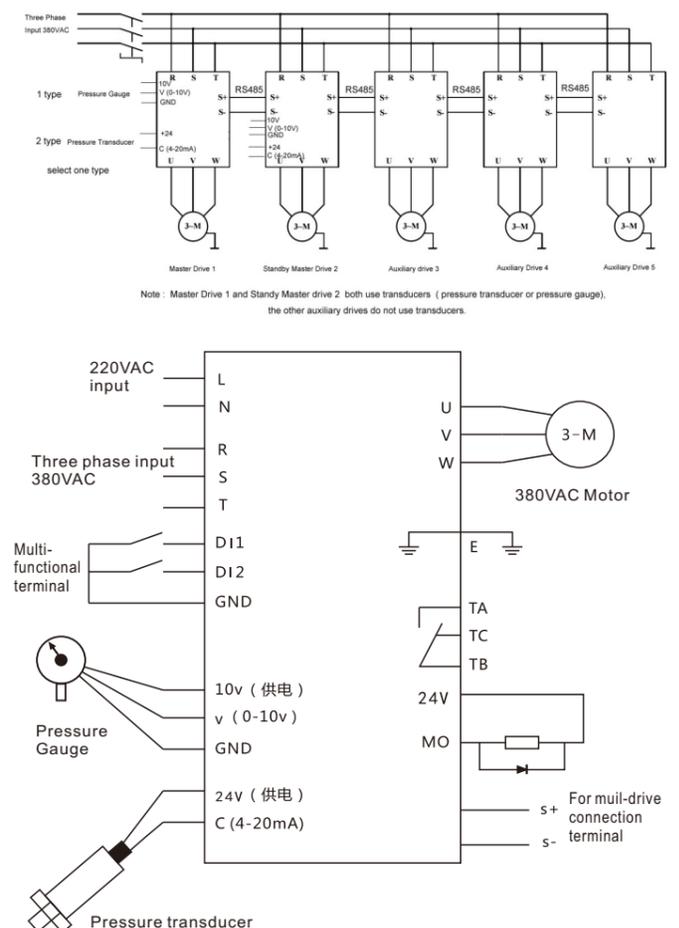
U3 Advanced Parameters Group

Function Code	Description	Set range	Unit	Default	Modification Level	Note
U3-00	Baud rate	5: 9600 6: 19200 7: 38400		6	●	
U3-01	Address	3-5 are for auxiliary numbers. 1,2 for master		1	●	
U3-02	Alternation time	0~60000	Min	480	●	
U3-03	Auxiliary drive quantity	0~4		0	●	
U3-04	Multi-pump control method	0: master-slave control 1: Synchronous control		0	●	
U3-05	Delay time for increasing pumps	0.1~600.0	S	1.0	●	
U3-06	Delay time for reducing pumps	0.1~600.0	S	0.1	●	
U3-07	Delay time for Standby master to become master	0.1~30.0	S	5.0	●	
U3-08	Communication selection	0: Standard 1: Connect pumps		1	●	
U3-09	Standard protocol address	0~247		1	●	
U3-10	Screen Display Parameters Under Stop Status	0~9		4	○	Refer to d monitoring parameters group
U3-11	The First Display Parameter Under Running Status	0~4		4	○	Refer to d monitoring parameters group
U3-12	Carrier Setting	1~12		6	●	
U3-13	Torque Enhancement	0~20.0	%	4.0	●	Depending on motor
U3-14	Low Frequency Vibration suppression Intensity	0~100		100	○	
U3-15	High Frequency Vibration Suppression Intensity	0~100		0	○	
U3-16	The Turning Point Between Low & High Frequency	5.00~50.00	Hz	20.00	●	
U3-19	Sleeping Delay Time	1.0~200.0	S	1.0	○	
U3-20	Proportionality Factor	0.0~50.0		10.0	○	
U3-21	Integral Time	0.1~100.0	S	0.6	○	
U3-29	Effective Selections For Multifunctional Input Terminal	0: Regular 1: Low effective		0	●	
U3-30	Inspection Value For Feedback Line Broken	0.0~100.0	%	5.0		
U3-31	Time For Recognizing Feedback Line Broken	0.0~3000.0	S	10.0		0.0 represents do not recognize
U3-32	Motor type	0: asynchronous 1: Permanent magnet synchronous		0	●	
U3-33	Motor Rated Power	1~1000	KW		●	Depending on motor type
U3-34	Motor Rated Rotation Speed	1~10000	r.p.m		●	Depending on motor type
U3-35	Motor Rated Voltage	1~800	V		●	Depending on motor type
U3-36	Motor Rated Current	0.1~1000.0	A		●	Depending on motor type
U3-37	Motor Rated Frequency	5.00~200.0	Hz		●	Depending on motor type
U3-38	Output Phase Protection Selection	0: OFF 1: ON		1	○	
U3-40	Motor Overload Gain Protection	20.0~1000.0	%	100.0	○	

Function Code	Description	Set range	Unit	Default	Modification Level	Note
U3-41	Overvoltage Stall Gain	1~10		2	○	
U3-42	Overvoltage (stall speed) Protection Voltage	120~150	%	130	○	
U3-43	Frequency-decreasing Time For Overcurrent (Stall Speed Gain)	1.0~200.0	S	1.0	○	
U3-44	Overcurrent (stall speed) Protection Current	100.0~200.0	%	160.0	○	
U3-45	Low Voltage Protection Current	70.0~100.0	%	100.0	○	
U3-46	Automatic Fault Reset times	0~20		3	○	
U3-47	Fault Reset Interval Time	0.1~100.0	S	10.0	○	
U3-54	Sleep Section	0: OFF 1: ON		1	●	

d monitoring parameters group		
d-00: Output frequency d-03: Temperature d-06: Feedback voltage d-09: Accumulated power -on time(0-65535H) d-12: DI input d-14: The second fault type happen d-17: Current when faults happen d-20: Fault time d-21: Feedback voltage when faults happen	d-01: Output current d-04: Set pressure-feedback pressure d-07: Set speed d-10: V input voltage value d-13: The first fault type d-15: The third fault type d-18: Bus voltage when fault occur	d-02: Bus voltage d-05: Set pressure d-08: Accumulated running time(0-65535H) d-11: C input current value d-16: Fault frequency d-19: Internal Temperature when faults happen

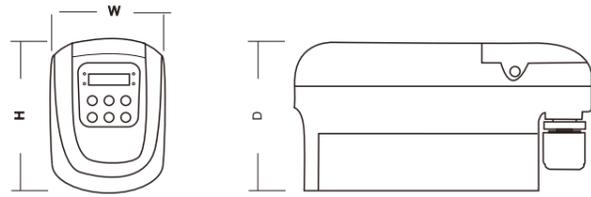
Wiring Diagram



User Manual

● Safety Precautions

1. Forbid any operation with power on, The power must be off for at least 10 minutes before wiring and inspection, or it would cause electric shock.
2. The main circuit terminal must be wired to the power cable tightly to avoid damage on the device due to loose connection.
3. Do not leave any foreign object inside the inverter, such as wire fragments, soldering tin, metal, etc. which would cause electric short circuit to burn out the inverter.
4. Do not install capacitor or surge current absorber (piezoresistor) at output side, which can c
5. The company is responsible for the repair and maintenance of our product according to the product quality regulation policy, and not responsible for any problems of motors or the negative impact on users due to motor faults.



Input Voltage	Mode	Power	Size (mm)			Installing Hole(mm)
			H	W	D	
Single phase AC220V	A620-MSR75A0	0.75KW	203	128	120	Φ 4
	A620-MS1R5A0	1.5KW	203	128	120	Φ 4
	A620-MS2R2A0	2.2KW	203	128	120	Φ 4
Three phase 380V	A620-TTR75A0	0.75KW	203	128	120	Φ 4
	A620-TT1R5A0	1.5KW	203	128	120	Φ 4
	A620-TT2R2A0	2.2KW	203	128	120	Φ 4
	A620-TT003A0	3.0KW	203	128	120	Φ 4
	A620-TT004A0	4.0KW	286	204	138	Φ 6
	A620-TT5R5A0	5.5KW	286	204	138	Φ 6
	A620-TT7R5A0	7.5KW	286	204	138	Φ 6

● Keypad Description (quick use guide)



Pressure Indicator Light	In running status, press the + and - button to keep the pressure indicator light on, then the pressure can be changed by press +/- button.
Running Indicator Light	In running status, press the + and - button to keep the pressure indicator light on, then the pressure can be changed by press +/- button.
Stop Indicator Light	Constant lighting means the pump is in stop status.
Link Indicator Light	Flickering means the drive is in the multi-drive control mode.

Remarks: The default pressure is 3bar (0.3Mpa), The transducer is current feedback type, The transducer range is 0-10bar (1Mpa). Refer to the quick adjustment of parameters settings if it is necessary to modify the parameters.

MENU	Used to switch from set pattern mode to parameters setting mode
+ / -	Set parameters and modify set pressure values
SHIFT	1. Switching to different parameters display 2. Press Shift to modify parameters which are modifiable when its flickering 3. In running status, press Shift to switch different displays among running frequency, output current, output voltage, drive temperature, set pressure and feedback pressure
RUN STOP	Used to start, stop the pump and for fault resetting. The button is invalid when the external terminal is connected.
Back to factory default setting by long pressing SHIFT and ENTER simultaneously	

● Quick Adjustment Of Parameters Setting

Press +/- button and hold for 3 seconds to set target pressure which can automatically save the setting without pressing ENTER button.	
Pressure transducer type setting (under the stop status)	
1.	Press the MENU for 3 seconds to enter into parameters setting then press ENTER.
2.	Press +/- button to enter into U0-03 setting, then press ENTER.
3.	Press +/- button to modify the number to select the transducer type, press ENTER.
Note:	0 represents voltage feedback, 1 represents current feedback, the factory default value is 1.
Pressure transducer range setting (under the stop status) U0-04 represents pressure transducer setting Factory default: U0-04=10Kgs (1Mpa)	
1.	Press Menu for 3 seconds to enter into parameters setting, then press ENTER.
2.	Press +/- button to enter into U0-04 setting, then press ENTER.
3.	Press +/- button to modify the range value to be your desired value, then press ENTER, back to the original display status by continuously pressing Menu for 3 times.
Note: If the motor was found to rotate reversely, enter into U0-02 setting to change the rotating direction. 0 represents forward rotation, 1 represents reverse rotation.	
Parameters setting for multi-Drive control mode Connect S+ to S+ and S- to S- in parallel from one controller to another before setting parameters.	
1. Master drive setting: U3-01 value is set 1	the U3-03 setting depends on the quantities of auxiliary pumps: if only one auxiliary, U3-03 value is set 2, two auxiliaries, the U3-03 value is set 2, 3 auxiliaries, the value is 2, 4 auxiliaries, the value is 4, 5 auxiliaries, the value is 5.
If the No.2 drive is set stand-by master pump (No.2 drive has to be equipped with a transducer). No.2 stand-by master drive setting: U0-10, U0-13 are both set 2, U3-01 is set 2. The other auxiliaries setting as follows: No.3 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 3 No.4 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 4 No.5 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 5	
If the system was set only No.1 drive as master, the other drives are all auxiliary drives No.2 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 3 No.3 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 4 No.4 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 5 No.5 auxiliary drive setting: U0-10, U0-13 are both set 2, U3-01 is set 6	
Note: Display interface of auxiliary pumps: The default display parameter is frequency parameter. When the communication is normal, the LINK indicator of auxiliary drive flickers.	
The switch of masters (The two masters must be equipped with transducers) a. When No.1 drive is set as master drive, No.2 drive as standby master, the standby master (drive 2) will become master drive under the following circumstances: 1>The communication line is broken or disconnected between drive 1 and drive 2. 2>The transducer of drive 1 is in the fault protection status. 3>The drive 1 is damaged or cannot work. b. Drive 2 will act as master until the drive 1 is recovered. Turn off the power and turn on the power again. c. Drive 2 acts as master only when drive 1 is disconnected. When power off and power on again, the drive 2 must get the information from drive 1 before it is allowed to act as master. Note: when only one transducer is connected, and the drive 1 is in the phase loss, overvoltage, undervoltage protection, No.2-5 auxiliary pumps can work normally.	
Terminal Name	Description
DI1, DI2	On-off input terminal combined with 24V GND to create input Input voltage: 9~30V, input resistance: 10KΩ
V	Analog input voltage: 0~10V, input resistance: 6.8KΩ
C	Analog input current: 4~20mA, input resistance: 500KΩ
10V	10V output voltage offered by A620 drive, output current: 0-10mA
GND	Reference zero potential for 5V, 10V, 24V
MO	Output terminals, the corresponding common terminal is GND
24V	24V output voltage given by the A620 drive
5V	5V output voltage given by the A620 drive
TA, TB, TC	Relay output: TA/TB constant off, TB/TC constant on Contact capacity: AC250V/3A, DC30V/1A
S+ S-	Combine work, signal connection

● Control Board Terminal Diagram

TA	TB	TC	MO	24V	GND	DI2	DI1	V	C	10V	5V	S+	S-
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Factory default relay output is valid for 4KW or over 4KW drivers, Factory default relay output is invalid for 3KW or below 3KW.

● Fault Information And Trouble Shooting

Fault Code	Fault Type	Possible Reasons	Solutions
E-01	Output Short circuit	1. Output short circuit or connected to ground 2. Too heavy overload	1. Wiring inspection 2. Ask manufacturer for help
E-02	Over current in speed acceleration	1. Acceleration time is too short. 2. Torque boost is too high or V/F curve is not applicable	1. Increase acceleration time 2. Lower torque boost, increase voltage to adjust V/F curve.
E-03	Over current in speed deceleration	Deceleration time is too short	Increase deceleration time
E-04	Over current in running	Abrupt load change	Reduce the fluctuation of load
E-05	Software over current	The same as E-01, E-02, E-03	The same as E-01, E-02, E-03
E-06	Internal communication problems	Hardware problems	Ask manufacturer for help
E-07	Grounding faults	1. The output end of drive or motor is connected to ground 2. The drive's input wire and output wire is connected together	1. Inspect wiring 2. Inspect if the motor has aging problems.
E-08	Over voltage in speed acceleration	1. Too high input voltage 2. Frequently switch on and off	Inspect the power and voltage
E-09	Over voltage in speed deceleration	1. Deceleration time is too short. 2. Abnormal input voltage	1. Increase deceleration time 2. Inspect the power voltage 3. Use new brake resistor
E-10	Over voltage in running	1. Abnormal input voltage 2. Returned energy load	1. Inspect the power 2. Use new brake resistor
E-14	underload	1. Virtual connection of drive's output wire 2. No load	1. Inspect the wiring 2. Inspect load
E-15	Drive overload	1. Too big load 2. Too short acceleration time 3. Torch increases too high or V/F curve not applicable 4. Grid voltage is too low	1. Reduce load or use big power drive 2. Increase acceleration time 3. Lower torque, increase voltage to adjust V/F curve. 4. Inspect grid voltage
E-16	Motor overload	1. Too big load 2. Too short acceleration time 3. Protection value is too small 4. Torch increases too high or V/F curve not applicable	1. Reduce load or use big power drive 2. Increase acceleration time 3. Increase overload protection value 4. Lower torque, increase voltage to adjust V/F curve.
E-17	Current detection fault	1. Breakdown of circuit or detecting device. 2. Auxiliary power problems	Ask manufacturer for help
E-18	Undervoltage in running	1. Abnormal input voltage 2. Big load starts in power grid	1. Inspect power voltage 2. Supply electricity separately
E-19	Open terminal external devices fault	External devices fault, Signal from input end	Inspect the signal and its related devices
E-20	Close terminal external devices fault	External devices fault, Signal from input end	Inspect the signal and its related devices
E-21	Drive overheating	1. Air passage blocked 2. The environment temperature is too high 3. Fan failed	1. Clean up the air passage 2. Decrease carrier frequency 3. Change fan
E-22	Input phase loss	1. Input voltage phase loss 2. Input voltage is too low	1. Check input wires connection 2. Check grid phase loss
E-23	Output phase loss	Poor connection between drive and motor	Inspect wiring
E-24	Storage faults	Hardware fault	Contact manufacturer
E-25	Running time reaches set time	Running time reaches set time	Seek for service
E-26	PID feedback fault	1. PID feedback signal is lost 2. Transducer is broken 3. Feedback information does not meet setting	1. Check feedback passage 2. Check transducer for problems 3. Verify the correct feedback to meet the setting
E-27	Rs485 fault	Data transmitting and receiving mistakes under the serial communication	1. Check wiring 2. Contact manufacturer
E-28	Interference	Improper operation caused by the surrounding EMI	Use absorption circuit to eliminate the surrounding interference

● Common Alarm Codes And Solutions

Alarm code	Alarm Description	Possible reasons	Solutions
A-01	Water shortage protection	1. low inlet flow. 2. The power of drive is bigger than that of pump, Water pressure below 0.5bar. 3. U1-01 value is set too big.	1. Increase inlet flow. 2. Modify U1-00 value to be 2. 3. Modify U1-01 value to a small number.
A-02	High water pressure protectio	1. Actual pressure exceeds 15bar 2. Transducer malfunction, the readout exceeds 15bar.	1. Modify U1-06 value to a bigger number. 2. Replace the failed transducer.
A-03	Low water pressure protection	1. Pressure below 0.5bar under the normal running status. 2. Pressure below 0.5bar, the pump rotates reversely. 3. Water consumption is bigger than outlet flow. 4. U1-08 value is set too high.	1. Eliminate the air in the pump. 2. Adjust the rotation direction. 3. Increase the inlet flow 4. Replace with bigger size pump or reduce water consumption. 5. Change the U1-08 value to a small number.
A-04	Low current protection	1. Incoming water shortage. 2. The power of drive is bigger than that of pump. 3. U1-04 Value is set too high	1. Increase incoming water 2. U1-00 value is modified as 2. 3. U1-04 value is modified as a small number.

● Parameters Setting Table

Note: "o": The parameter can be modified in both standby and operating status.
"●": The parameter can't be modified in operating status
"@": The parameter is the actual detected and recorded value which can't be modified.

U0 Basic Function Parameters Group						
Function Code	Description	Set range	Unit	Default	Modification Level	Note
U0-00	Target Pressure setting	0.5 ~ 60.0	Bar	3.0	o	
U0-01	Start Pressure Setting	0~U0-00	Bar	2.4	o	Wakeup from standby when pressure is lower than PID set pressure
U0-02	Running Direction	0: Forward 1: Reverse 2: Forbidden		0	o	Rotation direction can be changed or stopped by modifying the parameters
U0-03	Sensor feedback type	0: (0-10) 1: (4-20) 2: (0-5) 3: (0.5-4.5)	V mA V	1	●	
U0-04	Sensor Range	0.0-60.0	Bar	10.0	o	
U0-05	Pressure Calibration Factor	(0-2.000)		1.000	o	Display pressure is lower than actual pressure, increase the factor, on the contrary, decrease the factor
U0-06	Water leakage Factor	0: Close 0.0~100		1.0	o	The larger the leakage, the