



Q10 Series Smart Water Pump

Variable Frequency Drive

User Manual

Thank you for using our product. Please read the user manual carefully before use.

◆ Safety Precautions

- If the inverter is damaged or parts are missing upon receipt, do not install or operate it. Doing so may cause equipment damage or personal injury.
- Installation must be performed by qualified electrical personnel. Ensure power is disconnected and wiring terminals are correctly connected to prevent electric shock or fire hazards.
- Keep the inverter away from flammable or explosive materials and heat sources. Mount it on flame-retardant materials such as metal.
- Ensure the grounding terminal is securely grounded. Failure to do so may result in the inverter housing becoming electrically charged.
- The PCB board contains CMOS integrated circuits. Do not touch them with your hands, as static electricity may damage the components on the PCB board.
- Unauthorized modification of the VFD is strictly prohibited, as it may cause personal injury or death. Modified units will void warranty coverage.
- Do not touch terminals while the VFD is energized, as this may cause electric shock.
- Do not use circuit breakers to control VFD start/stop operations, as this may damage the unit.
- Certain functional parameters are not specified in this manual. Contact company technical support for specific requirements.

◆ Control Panel Instructions



Panel A



Panel B

Panel A Button Description	
	1. In the stopped state, pressing the start/stop button starts the device. 2. In the running state, pressing the start/stop button stops the device.
	1. Press this button on the main interface to enter the parameter settings group. 2. When modifying parameters, press this button to navigate to the next level or confirm the modified parameter value. 3. Press and hold this button and the Up button simultaneously for 3 seconds to restore factory settings.
	1. Press this button on the main interface to cycle through device operating statuses. 2. When modifying parameters, press the return key to shift. 3. Fault reset.
	1. Press this key to return to the previous screen when modifying parameters. 2. Press and hold this key for 3 seconds to automatically reverse the motor's rotation direction.
	1. Press the up/down keys to modify the operating frequency on the main interface. 2. Enter the parameter group, then press the up/down keys to modify internal parameter values.

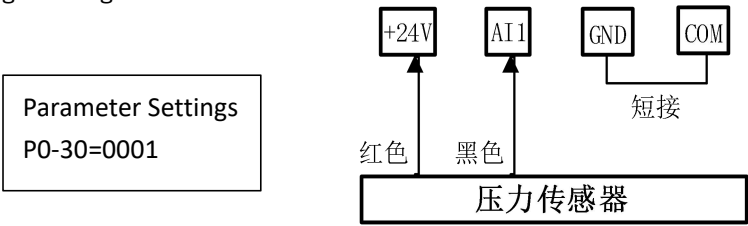
Panel B Button Description	
	1. Return to the previous menu level. 2. Switch to system monitoring.
	Enter parameter mode in the menu interface. Press again to access parameter settings, modify values, and confirm.
	Increases parameter setting values and set pressure values.
	1. Decreases parameter setting values and set pressure values.

◆ Pressure Setting

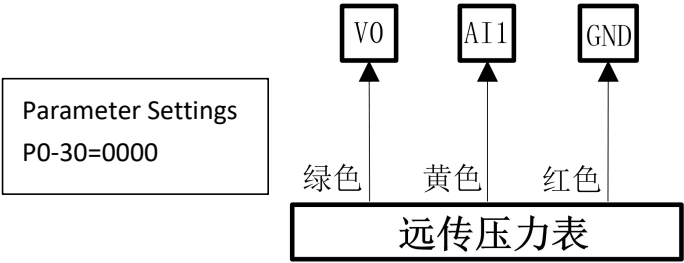
Pressure Setting: Directly modify via Up/Down keys on the main menu interface. Changes are automatically saved.	
Factory default: 2.4 kgf/cm ² (0.24 MPa). P display shows 2.4.	
P0-00 (Single Pump Mode)	
Step 1	Press Menu key to display P0-, then press Menu key again
Step 2	Use Up/Down keys to navigate to P0-00, press Confirm key
Step 3	Press Up to modify value, press Down to shift digits left. Set P0-00=1 (Single Pump Mode), press Confirm key
P0-02 (Sensor Range) Factory default P0-02=10.0 (1.0 MPa) Below 3.0 kW: P0-02=10.00; Above 4.0 kW: P0-02=16.00	
Step 1	Press the Menu key to display P0-. Press the Menu key again.
Step 2	Press Up/Down keys to navigate to P0-02, then press Confirm key
Step 3	Press Up to modify value; pressing Down shifts digits left to adjust to corresponding sensor range. Press Confirm key
Note	Factory default = 10 kg; If inverter feedback pressure is too high, reduce sensor range value (P0-02); conversely, increase it.
P0-05 (Sensor Type Selection) Factory default P0-05=1	
Step 1	Press the Menu key, display P0-, then press the Menu key again
Step 2	Press the Up/Down keys to enter P0-05, press the Confirm key
Step 3	Press the Up key to modify the value; press the Down key to shift the digits left to select the sensor type, press the Confirm key
Note:	Factory default is 1: AI1 = Pressure Sensor 2: AI2 = Remote Pressure Gauge
Final: Verify the pump rotation direction matches the motor impeller arrow. Change pump rotation via either method: (1) Stop the inverter and modify parameter P0-55 (Motor Forward/Reverse Setting). Default: 0. (2) Disconnect the input power supply. After the inverter display fully extinguishes, swap any two phases among the inverter output lines U, V, W.	

◆ Sensor Wiring

The inverter supports two sensor types: remote pressure gauges or pressure sensors. Wire according to the sensor type as shown in the diagram:
(1) Default: Pressure Sensor: Operating voltage 24V, output 4 – 20mA.
Wiring configuration as shown below:



(2) Remote Pressure Gauge: Operating voltage 10VDC, output 0–10VDC.
Wiring configuration shown below:



◆ Parameter Table

Note: Parameter Attributes:
○ General: No password protection; modifiable at any time;
◎ Unconditional Parameter Lock: Modifiable even during operation when unlocked;
● Conditional Parameter Lock: Cannot be modified during operation when unlocked;
※ System Lock: Modifiable only when system is unlocked and in shutdown state;

P0 Basic Function Parameter Group						
Function Code	Function Description	Setting Range		Unit	Factory Default	Change
P0-00	Control Mode	00: Universal Mode 01: Single Pump Mode 02: Dual-Pump Mode 03: Triple-Pump Mode	04: Quad-Pump Mode 05: Auxiliary Pump 1 Mode 06: Auxiliary Pump 2 Mode 07: Auxiliary Pump 3 Mode	↕	01	●

P0-01	Maximum Pump Head	0.00~655.35: Default Sufficient	m	0.00	○
P0-02	Sensor Range Setting	0.10~40.00	Bar	10.00	◎
P0-03	Maximum Output Frequency	5.00~320.00	Hz	50.00	●
P0-04	Minimum Output Frequency	0.0~P0-03 (Pump Mode: 20.00)	Hz	20.00	●
P0-05	Primary Frequency Source General: Set Frequency Source 1	00: Panel Input 01: AI1 Input 02: AI2 Input 03: Communication Input	⬆	01	●
	Pump: Set Feedback Source				
P0-06	Second Frequency Source General: Set Frequency Source 2	00: Panel Input 01: AI1 Input 02: AI2 Input 03: Communication Input	⬆	00	●
	Pump: Set Pressure				
P0-07	Zero Flow Fluctuation Pressure	0.00~1.00	Bar	0.10	◎
P0-08	Zero Flow Delay	0.0~100.0	S	20.0	◎
P0-09	Pulsation Frequency	0.00~20.00	Hz	1.50	◎
P0-10	Transition Time	0.0~10.0	S	4.0	◎
P0-11	Lower Pressure Limit	0.0~100.0	%	90.0	◎
P0-12	Lower Pressure Delay	0.1~50.0	S	5.0	◎
P0-13	Upper Pressure Limit	100.0~200.0	%	110.0	◎
P0-14	Upper Pressure Delay	0.1~50.0	S	10.0	◎
P0-15	First Acceleration Time	0.1~3000.0, set according to model	S	5.0	◎
P0-16	First Deceleration Time	0.1~3000.0, set according to model	S	5.0	◎
P0-17	PID Proportional Adjustment	0.1~100.0	%	1.0	◎
P0-18	PID Integral Adjustment	0.00~5.00	S	0.5	◎
P0-19	PID Derivative Adjustment	0.00~5.00	S	0.00	◎
P0-20	Sleep Frequency Paramete	0.50~1.50	%	1.10	○
P0-21	PID Sleep Detection Time	0.0~100.0	S	10.0	○
P0-22	Pump Control Setting	Units: 00: Constant Pressure; 01: Variable Pressure Control	⬆	0000	●
		Tens: PID Mode: 0: No Static Error Mode; 1: Half Minimum Static Error			
		Zero-Flow Fluctuation Pressure			
		Hundreds: 0-Flow & Sleep; 0: Shutdown; 1: No Shutdown			
		Thousands: PID adjustment direction; 0: Forward; 1: Reverse			
P0-23	Specific Alarm Delay	0.0~100.0	S	15.0	◎
P0-24	Overpressure Alarm	0.0~200.0 (0.0 disables this function)	%	0.0	◎
P0-25	Overpressure alarm delay	0.0~20.0	S	5.0	◎
P0-26	Inlet water shortage detection	0.00~P0-02 (Default connected to AI1, 0.00: Disable)	Bar	0.00	◎

P0-27	Dry run protection value coefficient	0.0~100.0 (0.0: Disable dry-running alarm)		%	15.0	⊙
P0-28	Dry-running auto-reset delay	00~1000		min	10	⊙
P0-29	Dry-running auto-reset count	0000~1000		⬆	6	⊙
P0-30	Analog Signal Setting	Units: AI1: 0: 0 - 10VDC; 1: 4 - 20mA Tens: AI2: 0: 0 - 10VDC; 1: 4 - 20mA Hundreds: AO: 0: 0 - 10VDC; 1: 4 - 20mA		⬆	0001	
P0-31	Detection Mode Setting	Units: Sensor Detection; 0: Disabled; 1: AI1 detection; 2: AI2 detection; 3: AI1/AI2 dual detection Tens: Fan control; 0: Temperature control; 1: Always active; 2: Disabled Hundreds: Output phase loss protection; 0: Enabled; 1: Disabled Thousands: Voltage stabilization enable; 0: Voltage stabilization enabled; 1: Disabled;		⬆	0000	●
P0-32	Function Mode Setting	Units: Panel command memory; 0: Disabled; 1: Enabled Tens: Anti-freeze function; 0: Disabled; 1: Enabled Hundreds: Anti-freeze time unit; 0: Seconds; 1: Minutes Thousands: Reverse operation; 0: Permitted; 1: Prohibited		⬆	0001	●
P0-33	Start Mode	00: Panel Start 01: Terminal Start 02: Communication Start		⬆	00	●
P0-34	Stop Mode	00: Deceleration Stop 01: Free Stop		⬆	00	●
P0-35	X1 Input Terminal Mode	00: No Function 01: Forward (FW) 02: Reverse (REV) 03: 3-wire Mode 04: Fault Reset Input (RESET) 05: Run Enable Input (Emergency Stop) 06: Low Water Level Normally Closed Input (Open Alarm Err27) 09: Emergency Jog Input 11: Low Water Level Normally Open Input (Closed Alarm Err27)		⬆	01	●
P0-36	X2 Input Terminal Mode				02	●
P0-37	X3 Input Terminal Mode				00	●
P0-38	X4 Input Terminal Mode				00	●
P0-40	Relay Function Setting (RA-RB-RC)	00: Run Indication 01: Fault Indication		⬆	1	⊙
P0-42	Communication Address	00~31		⬆	01	⊙
P0-43	Communication Method	00:RS485 Communication		⬆	00	●
P0-44	Communication Format	Tens	single-digit	⬆	13	●
		d0x: Data Format <8. N, 1> d1x: Data Format <8. N, 2> d2x: Data Format <8. E, 1> d3x: Data Format <8. E, 2> d4x: Data Format <8. 0, 1>	dx0: 1200 bps dx1: 2400 bps dx2: 4800 bps dx3: 9600 bps dx4: 19200 bps dx5: 38400 bps dx6: 57600 bps dx7: 115200 bps			
P0-45	Carrier Frequency Setting	0.8~16.0		kHz	8.0	●
P0-48	First Abnormal Record	Abnormal Record: Refer to “Fault Record Table” for details		⬆	00	●
P0-49	Second Abnormal Record					●
P0-50	Third Abnormal Record					●
P0-51	Braking Current Setting	00~100		%	0	●
P0-52	Braking Time Setting	0.0~25.0		s	0.0	●
P0-53	Stop Brake Frequency	0.00~P0-03		Hz	0.00	●
P0-54	Analog Output	00:Run Frequency 01:Set Frequency	03: Output Voltage 04: Output Torque	⬆	00	⊙

	Mode	02:Output Current 03:Output Voltage	05: Set Pressure 06: Feedback Pressure			
P0-55	Motor Forward/Reverse Setting	00: Forward 01: Reverse		⬆	00	●
P0-56	Jog/Free Run/Pump Reduction Frequency	0.00~P0-03		Hz	35.00	○
P0-57	Transformer Value	50~100%		%	80.00	◎
P0-58	Online Function Setting	0000~9999		⬆	1100	
P0-59	Online Function Setting	Units: Standby Pump Function; 0: Disabled; 1: Dual-Pump Standby Host Function; 2: Triple-Pump Standby Host Function; 3: Quad-Pump Standby Host Function; Tens: Multi-Pump Control Mode: 0: Primary/Secondary Multi-Pump Control; 1: Synchronous Multi-Pump Control; Hundreds: Online operation mode; 0: Overflow mode; 1: Equal distribution of operating frequencies among pumps; Thousands: Online pump rotation timing method; 0: Timed pump rotation; 1: Sequential pump startup;			00	○
	Parameter Protection Password	Setting Range:0000~9999				

P1 Advanced Function Parameter Group						
Function Code	Function Description	Setting Range		Unit	Factory Default	Change
P1-00	Motor Control Mode	00: SVC Control 01: V/F Control			01	●
P1-01	Motor Parameter Self-Tuning	00: No Tuning 01: Static Self-Tuning 02: Rotating Self-Tuning 03: Static Rotating Tuning			00	●
P1-02	Motor Rated Power	0.4~110.0		KW	Model Setting	●
P1-03	Motor Rated Frequency	0.01~320.00		Hz	Model Setting	●
P1-04	Motor rated voltage	10~510		V	Model Setting	●
P1-05	Motor rated current	0.01~99.99		A	Model setting	●
P1-18	Undervoltage point voltage	150.0~500.0		V	2S:200 4T:350	◎
P1-19	External Start Mode	00: Two-wire Mode 1 01: Two-wire Mode 2	02: Three-wire Mode 1 03: Three-wire Mode 2	⬆	00	●
P1-20	Warning Stop Setting	00: No Detection 01: Warning Prompt	02: Warning Detection with Deceleration Stop 03: Warning Detection with Free Stop	⬆	00	◎
P1-21	Torque Setting	0.0~200.0%;		%	0.0	◎
P1-22	Burst Pipe Pressure Setting	10.0~100.0%;		%	20.0	◎
P1-23	Burst Pipe Detection Time	00 ~ 1000 (00: Disable burst pipe alarm)		S	180	◎
P1-24	V0 Voltage Setting	4.0~13.0		V	10.0	◎
P1-25	Anti-Freeze Operation	0.00~P0-03		Hz	20.00	◎

	Frequency					
P1-26	Anti-Freeze Operation Time	00~65500, 00: Disable anti-freeze function		S	00	⊙
P1-27	Anti-freeze operation interval	00~65500		min	300	⊙
P1-28	Analog output ratio	00~200.0		%	100.0	⊙
P1-29	Analog filter coefficient	00~1000		δ	100	⊙
P1-30	Pump rotation interval time	0.00~200.00 (00: 无效)		h	3.00	⊙
P1-31	Parameter Reset Setting	06: Clear Fault Log		δ	00	●
		09: Reset All Parameters to Factory Default (50Hz)				
P1-33	Number of automatic resets	Units: Number of waterless switch resets; 0: Manual reset Tens: Reserved Hundreds: Number of overpressure resets; 00: Manual reset Thousands: Number of other resets; 00: Manual reset, default 10-second reset		δ	0009	⊙
P1-35	Second Row of Digital Display Interface Function Settings	00:Set Frequency: (F) 01:Output Voltage: (u) 02:Output Power: (E) 03:Transformer Calculation Pressure: bar 04:Operating Speed: (C) 05:Feedback Pressure (b) 06:Inverter Temperature (T) 07: Output Torque (J)	08:Setpoint Pressure (P) 09:Sleep Frequency (r) 10:External I/O Port Indicator 11: AI1 Signal Percentage 12: AI2 Signal Percentage 13: AO Signal Percentage 14:Output Frequency (H) 15:Output Current (A)	δ	05	⊙
P1-36	System Log Clear	00: Hold 01: Clear		δ	00	⊙
P1-39	System Setting	01~65535h (Timeout Alarm: Err22)		h	65535	※
P1-41	Overload Protection Gain	0.00~10.00 (0.00: Disable overload protection)		%	1.00	⊙
P1-42	Overload Alarm Coefficient	50~100		%	80	⊙
P1-43	Overcurrent Stall Point	0~200		%	120	⊙
P1-44	Overvoltage Stall Point	0~800		V	740	⊙
P1-45	Panel Set Frequency	0.00~P0-03		Hz	50.00	●
P1-48	Inverter Operating Time	00~65535		h	00	●
P1-49	Display Status Memory	0~20		bar	0.00	●
P1-50	Set Pressure	0.00~P0-02		bar	2.40	●
P1-51	Software Version	0.00~99.99		V	106.48	●

P2 Extended Function Parameter Group						
Function Code	Function Description	Setting Range		Unit	Factory Default	Change
P2-00	Input Frequency Offset Adjustment	0.0~200.0		%	0.0	⊙
P2-01	Input Frequency Bias Adjustment	00: Forward Direction 01: Reverse Direction		δ	00	⊙
P2-02	Input Frequency Gain Adjustment	0.1~200.0		%	100.0	⊙
P2-03	Reverse Direction Setting for Negative Bias	00: Negative Bias No Reverse 01: Negative Bias Reverse Allowed		δ	00	⊙
P2-04	Second/Jog Acceleration Time	0.1~3000.0		S	20.0	⊙
P2-05	Second/Jog Deceleration Time	0.1~3000.0		S	20.0	⊙
P2-06	First Stage Frequency Setting/FDT1 Frequency Detection High	0.00~P0-03		Hz	0.00	⊙
P2-07	Second Stage	0.00~P0-03		Hz	0.00	⊙

	Frequency Setting/ FDT1 Frequency Detection Low				
P2-08	Third Stage Frequency Setting/ FDT2 High Frequency Detection Value	0.00~P0-03	Hz	0.00	⊙
P2-09	Fourth Frequency Setting/ FD2 Low Frequency Detection Value	0.00~P0-03	Hz	0.00	⊙
P2-10	Fifth Frequency Setting	0.00~P0-03	Hz	0.00	⊙
P2-11	Sixth Stage Frequency Setting	0.00~P0-03	Hz	0.00	⊙
P2-12	Seventh Stage Frequency Setting	0.00~P0-03	Hz	0.00	⊙
P2-13	1/2 Acceleration Time Switching Frequency Point	0.00~P0-03 (0: Invalid)	Hz	0.00	⊙
P2-14	1/2 Deceleration Time Switching Frequency Point	0.00~P0-03 (0: Invalid)	Hz	0.00	⊙
P2-15	Instantaneous Stop Recovery Voltage	80~100%	%	85	⊙
P2-16	Undervoltage Stall Point	60~100%	%	80	⊙
P2-17	Maximum Output Voltage Coefficient	100~110%	%	105	⊙
P2-18	Forward/Reverse Deadband Time	0.0~130.0S	S	0.0	⊙
P2-19	Timer Time Setting	0.0~6553.5	S	0.0	⊙
P2-20	Braking Voltage Setting	0.0~800.0V 0.0:Invalid 220V:380.0V	V	720.0	●
P2-21	Bus Voltage Correction Factor	0.0~100.0	%	100	⊙
P2-22	External Frequency Adjustment Value	0.00~P0-03	Hz	2.00	⊙
P2-23	Compensation Hardware Current Detection Difference	500~1500	⚡	1000	⊙
P2-36	A11 Input Signal Lower Limit	0.00~P2-37 V/mA	A11 Curve Calibration V/mA	4.00	⊙
P2-37	A11 Input Signal Upper Limit	P2-36~25.00 V/mA		20.00	⊙
P2-38	A12 Input Signal Lower Limit	0.00~P2-39 V/mA	A12 Curve Calibration V/mA	0.00	⊙
P2-39	A12 Input Signal Upper Limit	P2-38~25.00 V/mA		10.00	⊙

◆ 常见故障代码及对策

Fault Code	Fault Type	Possible Causes of Malfunction	Countermeasures
Err01	Short Circuit Protection	1.Excessive acceleration rate 2.Internal IGBT damage 3.False triggering due to interference 4.Inadequate grounding	1. Increase acceleration time 2. Seek technical support 3. Inspect peripheral equipment for strong interference sources 4. Verify grounding integrity
Err02	Overcurrent During Constant Speed	1. Sudden or abnormal load change 2. Low grid voltage 3. Inverter power rating too low	1. Inspect load or reduce load fluctuations 2.Check input power supply 3.Select a higher-rated inverter
Err03	Overcurrent During Acceleration	1.Excessively rapid acceleration 2. Low grid voltage 3. Inverter power rating too low	1. Increase deceleration time 2. Check input power supply 3. Select a higher-rated inverter
Err04	Overcurrent during deceleration	1. Deceleration too rapid 2. High load inertia torque 3. Inverter power rating too low	1.Increase deceleration time 2. Install appropriate regenerative braking components 3. Increase inverter power rating
Err05	Motor overload	1. Grid voltage too low 2. SVC vector control enabled when motor and inverter mismatched 3. Prolonged excessive load 4. Acceleration/deceleration time too short 5. Inverter power rating	1.Check grid voltage 2.Adjust P1-00=01 3.Reduce load 4.Extend acceleration/deceleration time 5.Replace with appropriately rated VFD

		undersized	
Err06	VFD Overload	1. Low grid voltage 2. Incorrect motor rated current setting 3. Motor stalled or sudden excessive load change 4. Over-specified motor	1. Check mains voltage 2. Reset motor rated current 3. Inspect load and adjust torque boost 4. Select appropriate motor
Err08	Overvoltage	1. Abnormal input voltage 2. Restarting rotating motor after momentary power loss 3. Excessively rapid deceleration 4. High load inertia	1. Check input power supply 2. Avoid stopping and restarting 3. Increase deceleration time 4. Add suitable energy dissipation
Err09	Undervoltage	Low grid voltage	Check grid input power supply
Err10	Inverter Overheating	1. Inverter instantaneous overcurrent 2. Phase-to-phase or ground short circuit in output three-phase 3. Airflow path blocked or fan damaged 4. Ambient temperature too high 5. Control board wiring or connectors loose 6. Power circuit malfunction 7. Control board abnormality	1. Refer to overcurrent countermeasures 2. Rewire 3. Clear airflow path or replace fan 4. Lower ambient temperature 5. Inspect and reconnect 6. Seek service
Err06	VFD Overload	1. Low grid voltage 2. Incorrect motor rated current setting 3. Motor stalled or sudden excessive load change 4. Over-specified motor	1. Check mains voltage 2. Reset motor rated current 3. Inspect load and adjust torque boost 4. Select appropriate motor
Err11	Motor PTC overheating	Motor overheating detected	
Err12	Input phase loss	1. Abnormal three-phase input power	1. Inspect and resolve external input power issues
Err16	Reference current abnormality	1. Loose internal connectors in inverter 2. Internal switching power supply abnormality 3. Signal sampling/comparison circuit abnormality	1. Seek technical service
Err17	Abnormal Ground Detection	Abnormal ground signal detected in inverter	Check if inverter or motor is properly grounded
Err18	Relay Abnormality	Abnormal relay or contactor detected	Seek technical service
Err19	Start Resistor Overheating	1. Damaged relay 2. Frequent power cycling	1. Seek technical service 2. Avoid frequent power cycling
Err20	Phase Loss Protection	Phase loss detected in U, V, W outputs (or severe load phase imbalance)	1. Inspect output wiring 2. Inspect motor and cables
Err21	Auto-Tuning Failure	1. Auto-tuning timeout 2. Incorrect parameter settings	1. Verify motor wiring connections 2. Reset parameters
Err11	Motor PTC overheating	Motor overheating detected	
Err23	Initial Position Fault	1. Inverter Hall sensor fault for current detection 2. Inverter output phase loss	1. Inspect Hall sensor and troubleshoot 2. Inspect motor wiring and resolve this fault
Err24	Back EMF fault	1. Incorrect motor parameter settings	1. Correctly set motor rated frequency

		2. Actual abnormal motor back EMF 3. Incorrect P3-03 back EMF setting	2. Correctly set motor back EMF 3. Check for motor demagnetization
Err27	Terminal Water Short Alarm	1. Water shortage detected 2. Sensor feedback signal abnormal	1. Check for water shortage 2. Verify sensor wiring
Err31	A11 Abnormal	1.Signal wiring abnormality 2.A11 input signal abnormality 3.A11 internal circuit abnormality	1. Inspect A11 wiring 2. Measure A11 signal 3. Contact technical support
Err32	A12 Abnormal	1.Signal wiring abnormality 2.A12 input signal abnormality 3.A12 internal circuit abnormality	1. Check A12 wiring 2. Measure A12 signal 3. Contact technical support
Err40	External fault input	Detected signal from external fault input terminal	Verify signal integrity
Err41	Communication Alarm	1. Abnormal communication between mainboard and panel 2. Abnormal communication between inverter and external devices	1.Check mainboard and panel connection cables 2.Verify correct communication protocol between external devices and inverter
Err45	Motor Tuning Failure	1.Improper motor parameter settings 2.Parameter identification process timed out	1. Set motor parameters according to nameplate specifications 2. Inspect wiring from inverter to motor 3.Contact technical support

◆ Communication Protocol

The Q10 series frequency converters come standard with one RS485 communication interface (RS1), utilizing the international standard Modbus communication protocol for master-slave communication. Users can achieve centralized control via upper-level devices such as PCs, PLCs, or touchscreens—including setting control commands, operating frequencies, modifying relevant function code parameters, and monitoring the converter's operational status and fault information—to meet specific application requirements. Communication details are listed in the table.

Address Specifications for RS1 Function

Function Description	Address Definition	Data Meaning		Read/Write
Parameter Read/Write (8-byte read)	0x0000-0x00FFH	Parameter table address read/write with retention; e.g., address 0x000F for P0-15		R/W
	0xF000-0xF0FFH	Applies only to parameter read/write without saving; e.g., address 0xF00F for P0-15		R/W
Communication Control Command	0x2000	1: Run 2: Stop 3: Fault Reset 17: Forward Rotation 33: Reverse Rotation 48: Change Direction		W
Communication Data Write (Single Word Write)	0x2001	Frequency setpoint address, range (0 - 100.00%, 100.00% corresponds to maximum frequency)		R/W
	0x2002	PID Setpoint, range (0 - 100.0%, 100.0% corresponds to full scale)		R/W
	0x2003	PID Feedback, range (0 - 100.0%, 100.0% corresponds to full scale)		R/W
	0x2004	Pump Linkage Speed Value, Range (0 - 100.00%, 100.00% corresponds to full speed)		W
	0x2005	VF Separation Voltage Setpoint, Range (0 - 1000, 1000 corresponds to full scale)		W
Stand-alone or networked host operation/shutdown parameter address description (up to 8 bytes)	0x2100	Fault code (fault information code matches fault type serial number in function code menu)		R
	Inverter status	Bit0-4	Reserved	R
		Bit5-7	Reserved	
		Bit8-9	Reserved	
		Bit10-11	Reserved	
		Bit12-15	Reserved	
	0x2102	Set Frequency (2-digit decimal)		R
	0x2103	Output Operating Frequency (2-digit decimal)		R
	0x2104	Bus Voltage (1-digit decimal)		R
	0x2105	Output Current (2 decimal places)		R
	0x2106	Output Voltage (0 decimal places)		R
	0x2107	Output Power (2 decimal places)		R
	0x2108	Cumulative Operating Time (Unit: Hours, 0 decimal places)		R
	0x2109	Operating Speed (0 decimal places)		R
	0x210A	Feedback Pressure (2 decimal places)		R
	0x210B	Inverter Temperature (0 decimal places)		R
	0x210C	Output Torque (1 decimal place)		R
	0x210D	Set Pressure (2 decimal places)		R
	0x210E	Inlet Pressure (2 decimal places)		R

	0x210F	Terminal Input/Output Flag Status (0 decimal places)								R
		Bit00	Bit01	Bit02	Bit03	Bit04	Bit05	Bit06	Bit07	
		x1	x2	x3	x4	x5	Y1	0_lay	P_lay	
RS1 supports all of the above										

Warranty Terms

Our company solemnly promises that, starting from the date the user purchases the product from us, the user is entitled to the following warranty services:

- 1. The warranty covers the inverter unit itself.
- 2. The warranty period is eighteen months. During this period, if the product malfunctions or is damaged under normal usage as specified in the manual, our company will provide free repair services.
- 3. The warranty period commences on the product's date of manufacture. The machine serial number serves as the sole basis for determining warranty eligibility. Equipment without a serial number will be treated as out of warranty.
- 4. Exclusions: During the warranty period, repair fees will apply for damage caused by the following reasons:
 - A. Damage resulting from misuse, unauthorized repairs, or modifications;
 - B. Damage caused by fire, flood, earthquake, lightning, abnormal voltage, other natural disasters, or secondary disasters;
 - C. Damage resulting from accidental drops or transportation after purchase;
 - D. Product malfunctions or damage caused by factors unrelated to the product itself (e.g., external equipment issues);
 - E. Product malfunctions or damage resulting from use in harsh environments exceeding specifications outlined in the manual, such as exposure to gas corrosion, salt corrosion, or metal dust.



Official Account

Zhejiang Ruizhicheng Electric Co., Ltd.

Service Hotline: 18005773791 18106726858