


QD3606 control box
operation manual

Tronic 3 NEO



Safety Instruction

1. Users are required to read the operation manual completely and carefully before installation or operation.
2. All the instruction marked with sign  must be observed or executed; otherwise, bodily injuries might occur.
3. The product should be installed and pre-operated by well-trained persons.
4. For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection.
5. When connecting power supply cords to power sources, it is necessary to make sure that the power voltage matches the rated voltage indicated on the motor's name plate.
6. Don't operate in direct sun light, outdoors area and where the room temperature is over 45°C or below 5°C.
7. Please avoid operating near the heater at dew area or at the humidity below 30% or above 95%.
8. Don't operate in area with heavy dust, corrosive substance or volatile gas.
9. Avoid power cord being applied by heavy objects or excessive force, or over bend.
10. The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
11. All the moving portions must be prevented to be exposed by the parts provided.
12. Turing on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
13. Turn off the power before the following operation:
 - a) Connecting or disconnecting any connectors on the control box or motor.
 - b) Threading needle.
 - c) Raising the machine head.
 - d) Repairing or doing any mechanical adjustment.
 - e) Machines idling.
14. Repairs and high level maintenance work should only be carried out by electronic technicians with appropriate training.
15. All the spare parts for repair must be provided or approved by the manufacturer.
16. Don't use any objects or force to hit or ram the product.

Guarantee Time

Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

Warranty Detail








Any trouble found within warranty period under normal operation, it will be repaired free of charge. However, maintenance cost will be charged in the following cases even if within warranty period:

1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency

Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefor the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker)


1 Button Displays and Operating Instructions

1.1 Key Description




Name	key	Indicate
Function Parameter Edit		If click, enter or exit the user parameter setting interface.
Setting Parameter Check and Save		For the content of the selected parameters check and save: after select parameter press this key to check and modify operation, after modified parameter value press this key to exit and save the parameter.
Up Key		If click, increase the parameter / increase speed. If long-press, continuously increase the parameter / continuously increase speed.
Down Key		If click, decrease the parameter / decrease speed. If long-press, continuously decrease the parameter / continuously decrease speed.
Trimming Setting		If click, set used or cancelled trimming function. If long-press, quickly enter the P41 item counter parameter value interface.
Needle Stop Position Selection		If click, the needle stop position after shift the sewing mode (Up position / Down position)
Slow Launch Setting		If click, set used or cancelled slow Launch Setting function.

1.2 Auxiliary Function

1.2.1 Enter the Advanced Parameter Item Interface

Press and hold  to boot up, and enter the advanced parameter item interface.

1.2.2 Reset the System

Press and hold  and  to boot up, enter the P44 parameter interface, and then press  to jump to the main interface, indicating that the factory settings are restored.

1.2.3 Factory Parameter Value Saving Function

In the parameter value interface, press and hold  for 3 seconds to save the current parameter as the factory default value, and the successful display shows "SAVE".

2 User Parameter

No.	Items	Range	Default	Description
P01	Maximum sewing speed (rpm)	100-5000	3700	Maximum speed of machine sewing
P02	Set accelerated curve (%)	10-100	80	Set the acceleration slope The greater the slope value, the steeper the speed; the smaller the slope value, the slower the speed
P03	Needle UP/ DOWN	UP/DN	DN	UP: Needle stops at up position DN: Needle stops at down position
P07	Soft start speed (rpm)	200-1500	400	
P08	Stitch numbers for soft start	1-9	2	
P14	Slow start function selection	ON/OFF	OFF	

No.	Items	Range	Default	Description
P15	Mending stitch mode	0-4	2	0: half stitch 1: one stitch 2: continuous half stitch 3: continuous one stitch 4: Back-tacking when machine stop or pause
P21	The position of the pedal for accelerating	30-1000	520	
P22	The position of the pedal for the stop	30-1000	420	
P24	The position of the pedal for thread trimming	30-1000	130	
P27-N6	Auto count selection	0-50	1	0: P41 item trimming counter not count automatically. 1-50: Counter trimming times
P27-N12	Boot display counter interface selection	0-1	0	0: OFF 1: ON
P27-N13	Thread trimming counter mode selection	0-1	0	0: Additive sewing counter 1: Subtractive sewing counter
P29	The strength of thread trimming stop	1-45	32	
P38	Automatic thread trimming function selection	ON/OFF	ON	
P41	Counter display	0-9999	0	Display the quantity of finished sewing piece. Long-press “-” key to clear the count
P42-N01	The control system version number			
P42-N02	The panel version number			
P42-N03	Speed			
P42-N04	The pedal AD			
P42-N05	The mechanical angle(up position)			
P42-N06	The mechanical angle(down position)			
P42-N07	Busbar voltage AD			
P43	Direction of motor rotation	CCW/CW	CCW	CW: Clockwise CCW: Counterclockwise
P44	Brake strength during stopover	1-45	30	
P46	Motor stop with a reverse angle after trimming function	ON/OFF	OFF	
P47	Adjust the reverse angle when motor stop after trimming	50-200	160	After thread trimming, start from the upper needle position and adjust the angle of the needle lift in reverse operation.
P48	The minimum speed (positioning speed) (rpm)	100-500	210	Adjust the minimum speed
P49	Thread trimming speed (rpm)	100-500	300	Adjust the motor speed during the thread trimming cycle
P54	Thread trimming action time (ms)	10-990	200	
P56	Power on and positioning	0-2	0	0: Always not to find the up needle position 1: Always to find the up needle position 2: If the motor is not into the up needle position, it will find the

No.	Items	Range	Default	Description
				up needle position
P58	Up needle position adjustment	0-2399	1950	Up position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P59	Down needle position adjustment	0-2399	750	Down position adjustment, the needle will advance stop when the value decreased, the needle will delay stop when the value increased.
P60	Testing speed (rpm)	100-3700	3500	Setting testing speed.
P61	Testing A	ON/OFF	OFF	Continuous running testing.
P62	Testing B	ON/OFF	OFF	Start and stop testing with all functions.
P63	Testing C	ON/OFF	OFF	Start and stop testing without all function.
P64	Test run time	1-250	30	
P65	Test stop time	1-250	10	
P66	Machine protection switch selection	0-1	1	0: Disable 1: Testing zero signal
P70	Type	1-45		
P72	Up needle position adjustment	0-2399		Adjust up needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as up needle position.
P73	Down needle position adjustment	0-2399		Adjust down needle position, the displayed value will change with the position of the handwheel, press "S" key to save the current position (value) as down needle position.
P80	Trimming engage angle	5-359	18	
P82	Trimming retract angle	5-359	172	
P83	Stopping strength after trimming	10-100	20	
P86	Up and down needle position distance	100-1400	1200	Up and down positioning distance angle (1 degree for every 4 values)
P88	Stopover distance	10-100	40	
P89	AC overvoltage setting	500-1023	880	
P92	Correct the electrical angle of motor		160	Reading the initial Angle of encoder, the factory default was set, please do not change the values (parameter value cannot be changed manually, random change it will result the control box and motor abnormal or damaged).
P110	Trimming back time (ms)	60-990	60	Make sure the thread trimming device returns to its original position
P119	Solenoid overcurrent protection alarm selection	0-1	1	0: no alarm, turn off the output 1: alarm, and stop

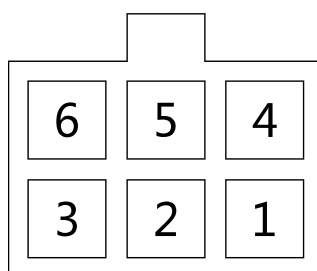
Note: the initial value of parameters is for reference only, and the actual value of parameters is subject to the real object.

3 Error Code List

Error Code	Problem	Measure
E01	Over-voltage	Turn off the system power and check whether the power supply voltage is correct. (Or whether it exceeds the specified rated voltage).
E02	Low-voltage	Turn off the system power and check whether the power supply voltage is correct. (Or whether it is lower than the specified rated voltage).
E03	Abnormal communication between the main CPU and the driver CPU	Turn off the power and check whether the connector is connected to the operation panel and the cable condition.
E05	Speed control unit connection is abnormal	Please turn off the power and check whether the connector is connected to the speed controller and the cable condition.
E07	Main shaft motor rotating abnormally	Please rotate handwheel to check if the spindle motor is locked. Check if the encoder cable of the motor and the power cable of the motor are connected to the connector. Check if the power supply voltage is normal and whether the sewing speed is too high.
E10	Solenoid over-current protection	Turn off the system power supply, please check the solenoid (solenoid valve) connector or solenoid (solenoid valve) is broken or not.
E09 E11	Positioning signal error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E14	Encoder signal error.	Turn off the system power supply, please check motor encoder connector if loose or fall off, renew to normal then restart system.
E15	Main shaft motor overcurrent error	Turn off the power, and then turn it on again.
E17	Head fall error	Please raise machine head and turn on the power again. Check if the head down switch is damaged.
E20	Main shaft motor rotating abnormally at startup	Turn off the power and check whether the encoder cable of the motor and the power cable of the motor are connected to the connector.

4 Port Diagram

6P Function Port Description



1. Thread trimming electromagnet: 1, 4 (+32V)
2. Mending stitch key: 2(signal), 5 (DGND)
3. LED Light: 3 (+5V), 6 (DGND)