Weld Checker Manual

PC-370B

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CONTENTS

1. Special Precautions

（1） Safety Precautions

Read all safety instructions before operation to ensure correct equipment usage. These precautions prevent hazards to users and bystanders.

Warning Symbol Definitions:

 DANGER	Immediate Hazard: Will cause death or serious injury.
 WARNING	Potential Hazard: May cause death or serious injury.
 CAUTION	Moderate Hazard: May cause minor/moderate injury or property damage.
	Prohibited: Actions voiding product warranty
	Mandatory Action: User compliance required
	Refers to Danger/Warning/Caution notes.

DANGER

DO NOT disassemble, repair and modify the equipment.
Unauthorized internal contact may cause electric shock or fire.
For battery replacement/service, contact distributor or manufacture.

WARNING

Keep hands clear of electrode area.
Fingers may be pinched during welding operations.

DO NOT touch the welding area or electrode during or immediately after welding.
Workpieces, electrodes, holders, etc., are at high temperature; to prevent burns, do not touch.

Use the specified power supply only.
Non-compliant power sources may cause fire or electric shock.

Secure wiring connections.
Use only designated cables; improper connections may cause fire or electric shock.

Protect cables from damage.
Do not step on, twist, or pull cables. Damaged cables may cause short circuits, electric shock, or fire. For repairs, contact distributor/manufacturer.

Immediately halt operations during abnormalities.
Stop equipment if burning odor, abnormal noise, overheating, or smoke occurs to prevent fire/electric shock. and immediately contact distributor or manufacture.

Pacemaker users must maintain distance (≥2m).
Individuals using implanted cardiac pacemakers should not approach operating welders or welding workplaces unless permitted by a doctor. When energized, the welder generates a magnetic field that may interfere with the pacemaker's operation.

Wear appropriate work clothing.
Use protective gloves, long-sleeved clothing, leather aprons, and other safety gear.
Welding sparks contacting skin can cause burns.

Use protective goggles.
Directly viewing welding sparks can cause eye injury. Sparks entering the eyes can cause blindness.

⚠CAUTION

Maintain dry operating conditions.
Water ingress may cause electric shock or short circuits.

Keep flammable materials away.
Welding sparks may ignite combustibles. If removal is impossible, use flame-resistant barriers.

Ensure ventilation.
Never cover equipment during operation; overheating may cause fire.

Inspect power plug regularly.
Dust accumulation or loose connections may cause overheating/fire.

Grip plug during connection/disconnection.
Pulling cords may damage insulation, causing electric shock or fire.

Unplug during extended inactivity.
Prevents insulation degradation that may lead to leakage current or fire.

Keep fire extinguishers accessible.
Maintain operable extinguishers in welding areas.

Perform regular maintenance.
Maintain the product regularly; repair damaged parts before reuse.

Use hearing protection.
High-decibel noise may cause hearing impairment.

（2） Usage Precautions

- Avoid installation in the following environments:
  - Humidity >70% or <40%
  - Temperature >45℃ OR <0℃
  - Location near a high-frequency source
  - Areas where chemicals are handled
  - Prone to condensation
  - Dusty environments
  - Direct sunlight exposure
  - Unstable surfaces, areas subject to vibration or impact
- Verify supply voltage/frequency（AC127V±10% (50/60Hz)） before installation.
- Clean the equipment exterior with a dry or slightly damp cloth. For stubborn dirt, use diluted neutral detergent or alcohol.

  DO NOT use solvents (e.g.,thinners or acetone) to avoid discoloration or deformation.

  DO NOT insert foreign objects (e.g., screws, coins) into the equipment, as this may cause malfunction.
- Operate keys and switches gently. Tools (e.g., screwdrivers) must not be used on controls.

（3） Model-Specific Functions

The function "With Force/Displacement" is exclusive to models below. Other functions match the standard model.

Model	**PC-370B-01**	**PC-370B-04**
Standard(Without Force/Displacement)	○	
With Force/Displacement		○ *1

*1: Requires compatible interface with ONO SOKKI Co., Ltd. displacement sensor.

2.Features

The PC-370B welding checker produced by Weierda, is a stationary measurement instrument for resistance welding machines.
It measures current, power, energization time, force, displacement, external input voltage (max ±10V)*1, and displays waveforms.
(*1: Function available only on models "With Force/Displacement". Force measurement and external voltage input are selectable via system settings.)
The LCD clearly displays welding current / force waveforms, making it ideal for weld quality management. Its external printer allows direct printing of measurements and waveform.

Key features.

- Simple encoder operation
  Turn encoder to navigate menus/move cursor; press to select.
- Intuitive interface
  High-contrast LCD displays current/force waveforms clearly.
- Advanced display without oscilloscope
  Freely adjust X-axis (time) and Y-axis (force/current) scaling; measure waveform segments using movable cursors.
- Waveform FIT (Auto-Scaling)
  Auto-Scaling and centers off-screen waveforms for optimal viewing.
- Simultaneous force & current measurement
  Monitor applied force and welding current during energization (With force / Displacement models only).
- Data recording
  Save measurements and waveforms to an external memory card.
- PC data management
  Transfer measurement data to a computer via RS-485 interface.
- Wide welder compatibility
  Supports single-phase AC, DC inverter, AC inverter, and transistor-type welders.

3.Package Contents

Verify contents upon receipt. Contact us if anything is missing.

（1） Standard Accessory(PC-370B)

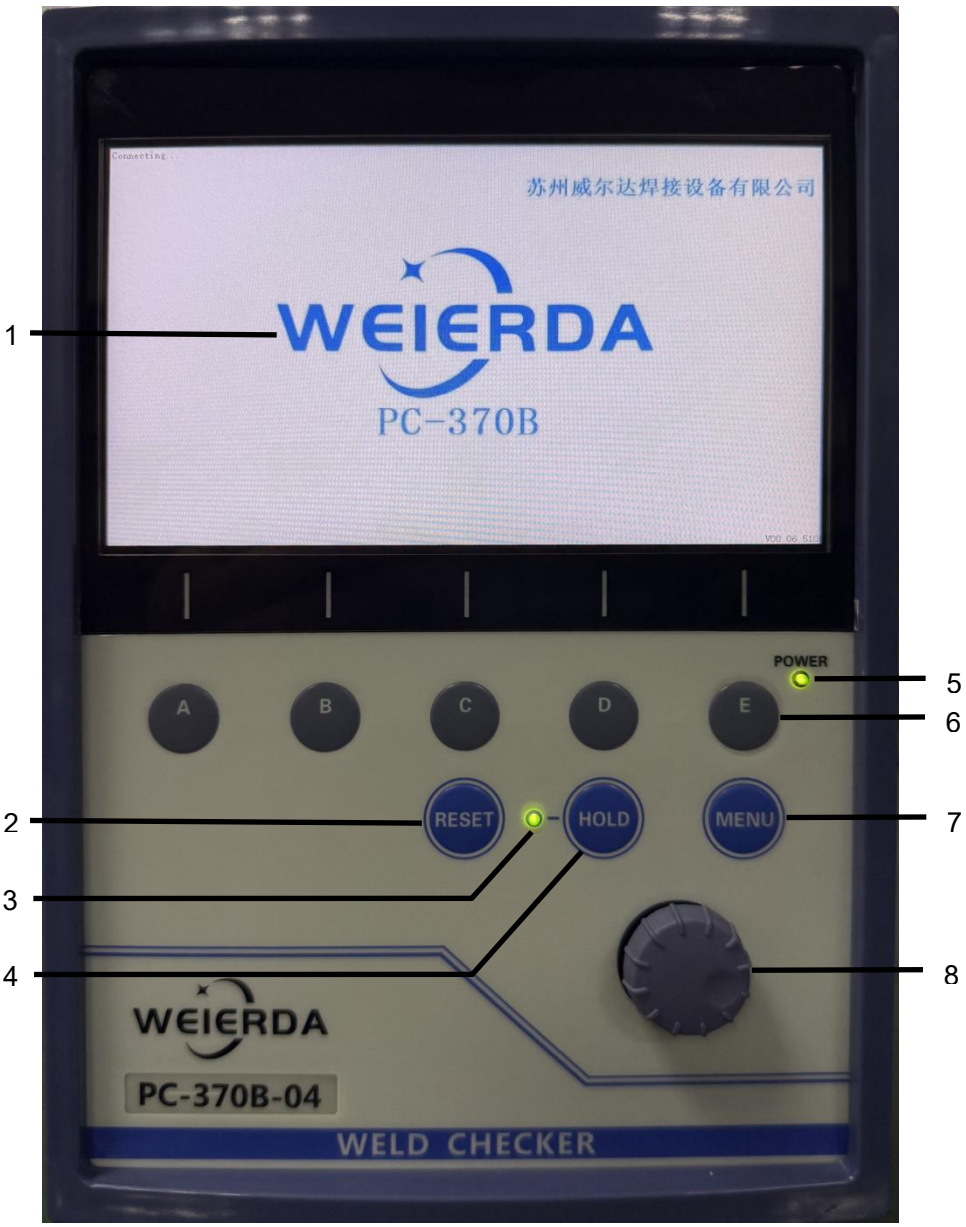
Item Name	Qty.
Voltage Detection Cable	1
Secondary Induction coil	1
Ac Power Cord	1
Instruction Manual	1

（2） Optional Accessories

Item Name	Model
Displacement Sensor	**GS-1830A**（30mm）(ONO SOKKI Co., LTD.)
Displacement Sensor	**GS-1813A**（13mm）(ONO SOKKI Co.,LTD.)
Displacement Sensor Adapter cable	**A-09041-001 (for GS-1830A/GS- 1813A)**

4.Product Structure and Function

（1） Front Panel

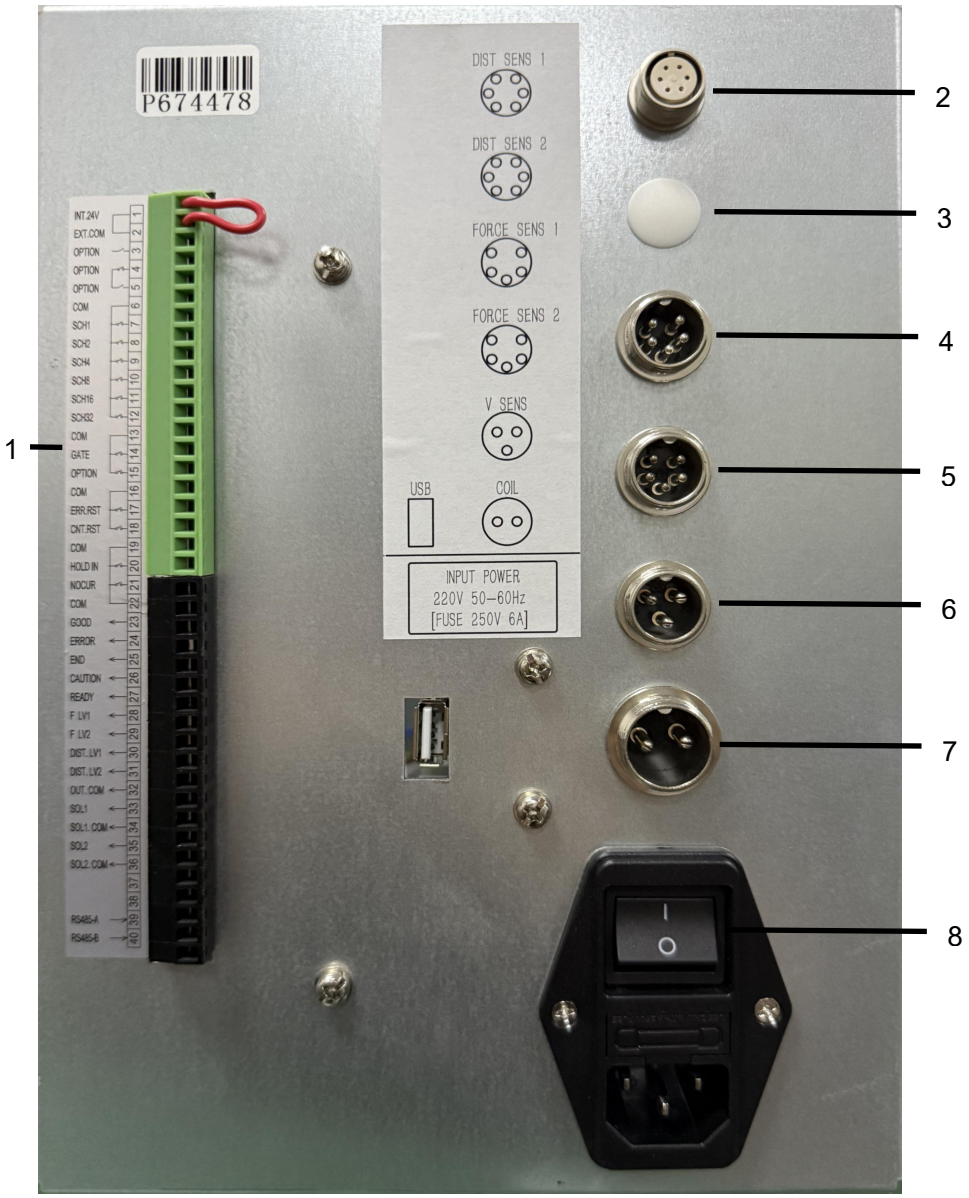


① Screen: Shows measurements, waveforms and menus. For the operation screen, see "Chapter 7.4 Operation Screen".
② [RESET] key: Clear errors.
③ HOLD indicator light: When the [HOLD] key is ON, the green light is on. When the [HOLD] key is OFF, the light is off.
④ [HOLD] Key: Toggles HOLD mode (Default OFF at startup).

	Data measurement	Screen manipulation
[Hold] key ON (Lock protection mode)	×	○
[HOLD] key OFF (Lock mode release)	○	×

⑤ [POWER] indicator: Illuminates when power is ON.
⑥ Operation keys A, B, C, D, E: Execute context-specific functions shown on screen.
⑦ [MENU] key: Opens main menu.
⑧ Encoder: Used for menu and parameter selection.

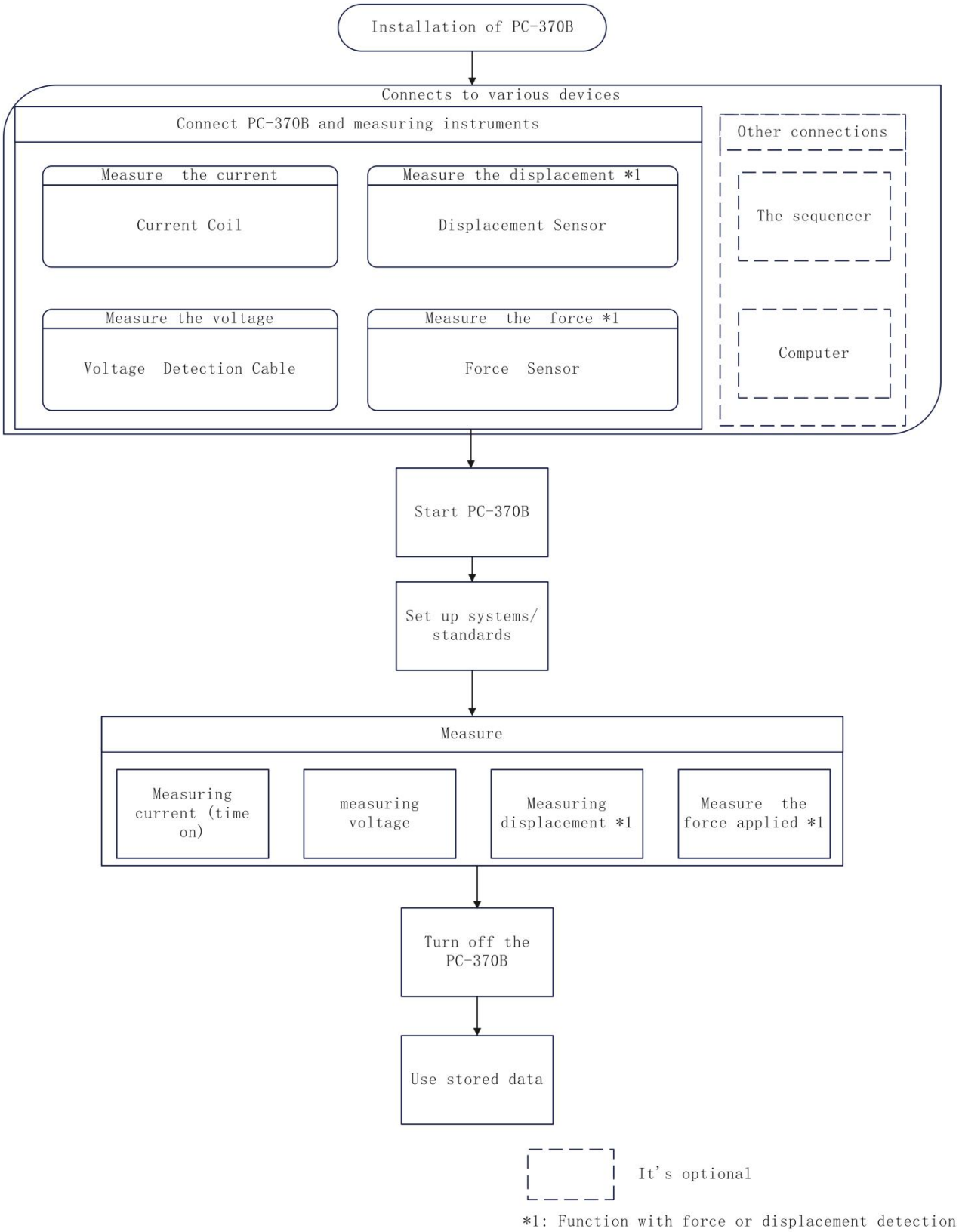
（2） Rear Panel



① External I/O Port: For peripheral device signals.
② Displacement Sensor Port 1: Connect optional displacement sensor.
③ Displacement Sensor Port 2: Connect optional displacement sensor (As required).
④ Force Sensor Port 1: Connect optional force sensor.
⑤ Force Sensor Port 2: Connect optional force sensor.
⑥ Voltage Detection Port: Connect voltage cable.
⑦ Secondary Induction Coil Port: Connect secondary induction coil.
⑧ Main Power Switch: Turns main power ON/OFF.

5.Operating Process

The operation process is as follows:



Operating process

6.Installation / Connection

（1） Installation of PC-370B

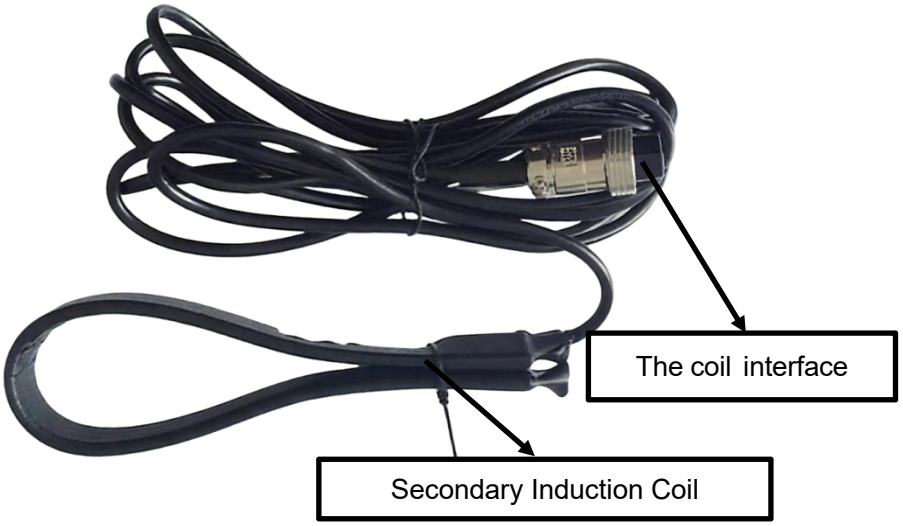
1) Place the PC-370B on a stable and level surface.

2) Connect the power cord to the power cord port on the rear panel.

（2） Connecting Instruments

a. Connection of the secondary induction coil and the voltage detection cable

To measure current and voltage, connect the secondary induction coil and voltage detection cable to the rear panel of the PC-370B.



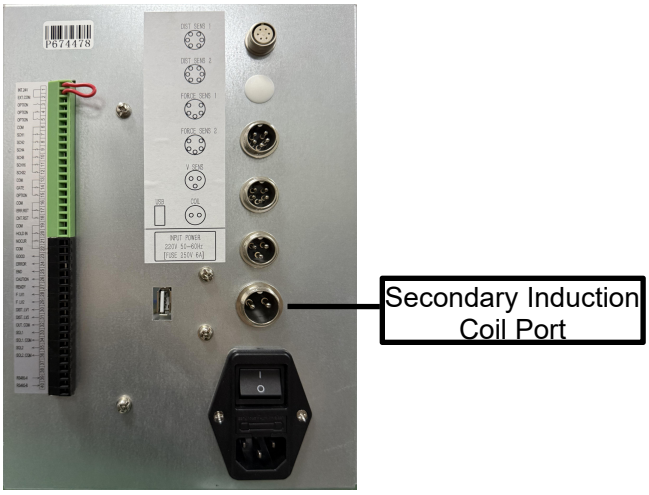
Please use the appropriate secondary induction coil for the operating environment.

The following models of secondary induction coils are available for selection:

Coil Model	Specifications
PB-800L	Sensitivity Ratio: 1:1
PB-400L	Sensitivity Ratio: 1:1

Connect the secondary induction coil and voltage detection cable in the following sequence:

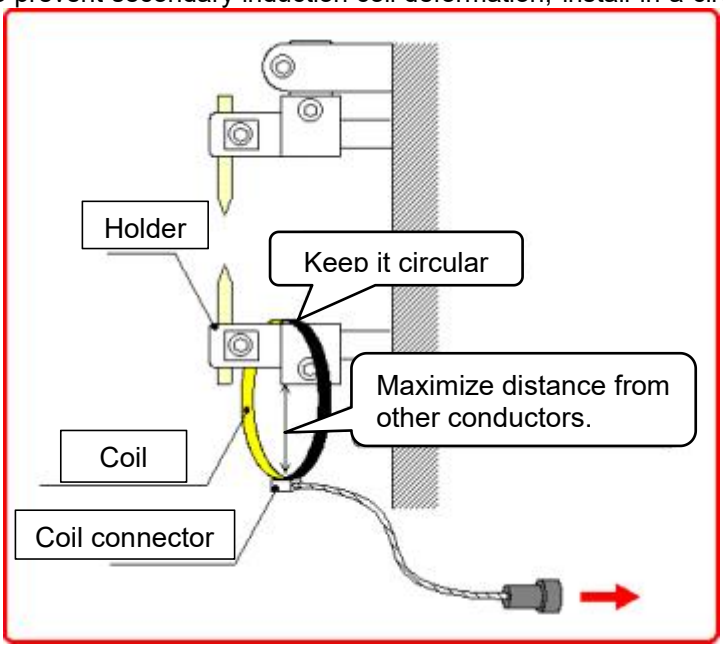
1) Plug the secondary induction coil connector into the secondary induction coil port on the rear panel of the PC-370B.

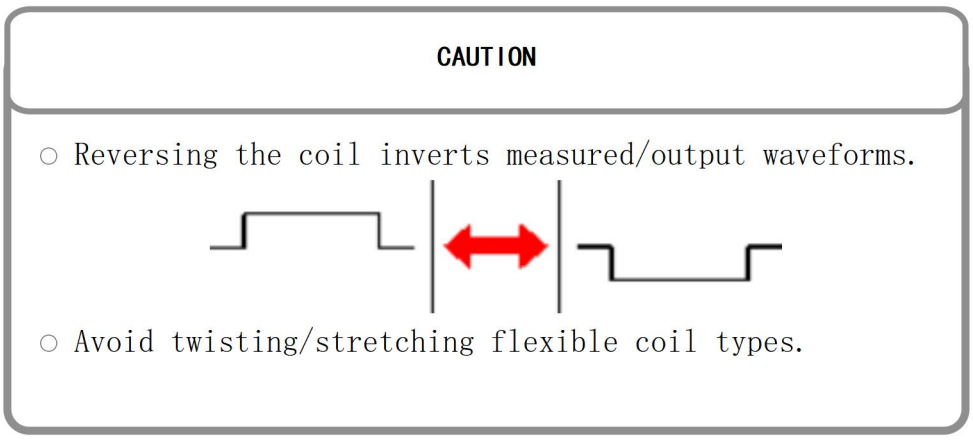


2) Install the secondary induction coil onto the welder's secondary conductor/holder.

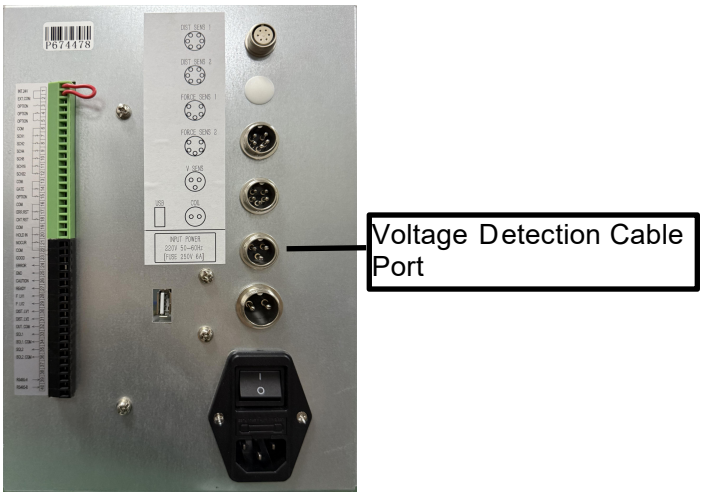
CAUTION:

- The secondary induction coil should be as far away from the welder's secondary conductor/holder as possible.
- To prevent secondary induction coil deformation, install in a circular state.





3) Plug the voltage detection cable into the voltage detection port on the rear panel of the PC-370B.



4) Connect the voltage detection cable probes to the welding electrodes (positive/negative).

b. Connecting displacement sensor (*with force/displacement)

Equipment with force/displacement can measure displacement.

Connect the displacement sensor when measuring the displacement.

Displacement sensor(e.g., GS-1830A)

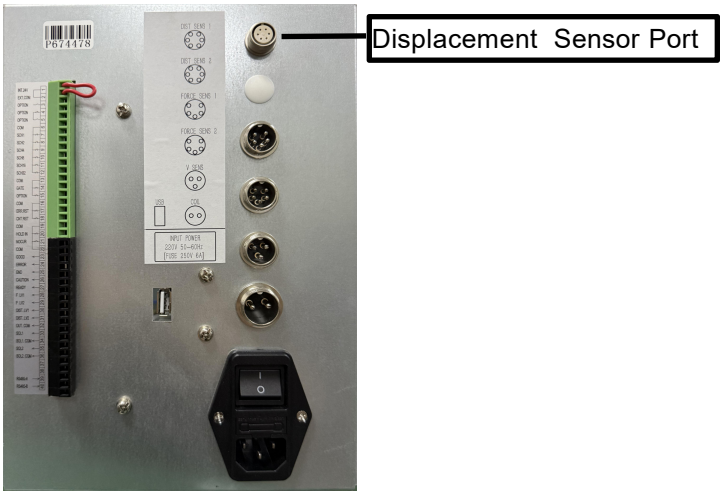
Our company recommendsthe following types of displacementsensors:

The model of the displacement sensor	Manufacturer
GS-1830A*1	ONO SOKKI CO., LTD
GS-1813A*1	ONO SOKKI CO., LTD

***1: When using PC-370B-00-04 with GS-1830A or GS-1813A displacement sensors, you must use a conversion cable: GS-1830A, GS-1813A (ONO SOKKI).**

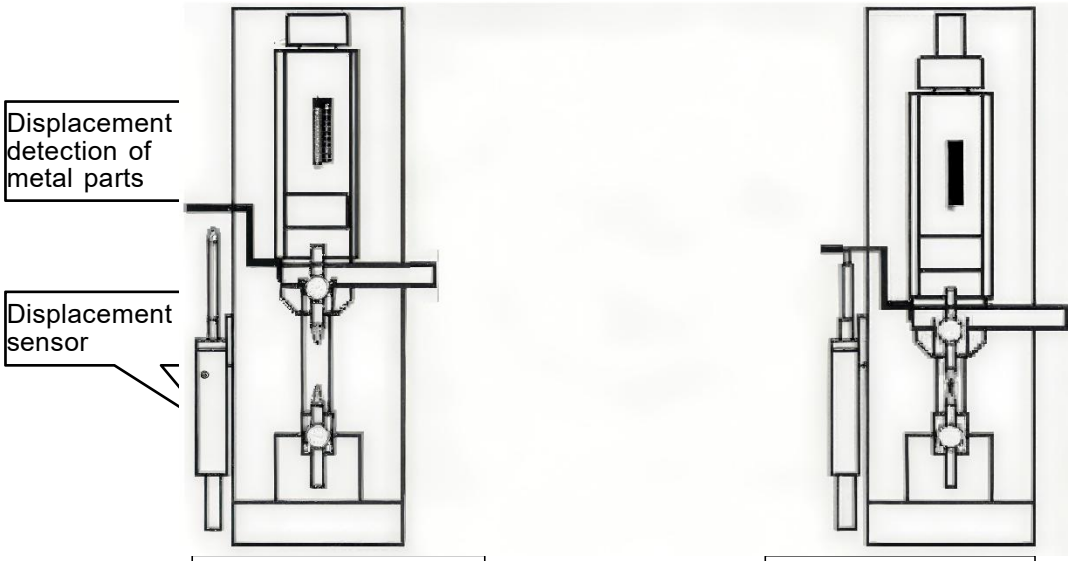
Connect the displacement sensor in the following order:

1) Connect the connector of the displacement sensor to the displacement sensor port on the back panel of the PC-370B.



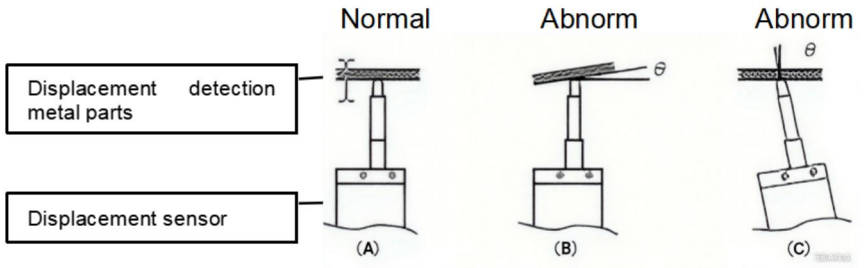
2) Install the displacement sensor.

Install the sensor firmly according to the following figure. The contact part of the displacement sensor and the displacement sensor should be insulated.



CRITICAL

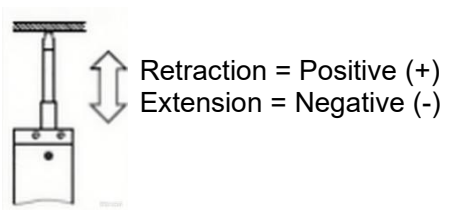
○ As shown in Figure (A), please make sure that the displacement sensor and the displacement detection metal parts are perpendicular to detection surface. As shown in (B) and (C), when used with a deviation in the installation Angle, the life of the displacement sensor will be shortened.



Do not exceed the sensor's stroke limit.

The measurement values from the displacement sensor have positive and negative polarity, defined as follows:

Direction: Retraction = Positive (+); Extension = Negative (-).



c. Connecting force sensor (*with force/displacement)

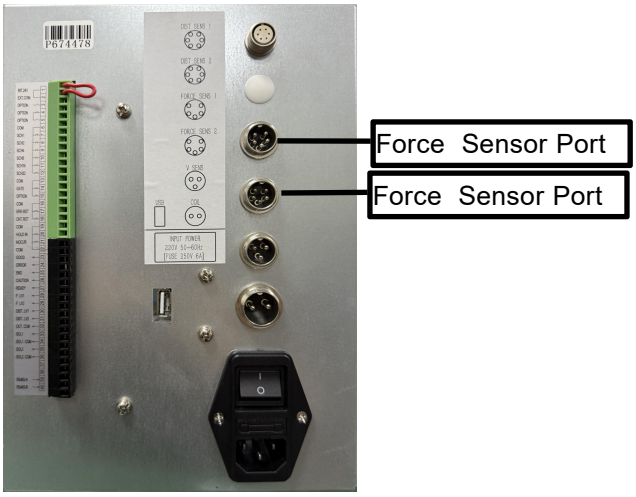
Plug the force sensor connector (e.g., WED8204A20) into the Force Sensor port.

Force sensor

Connect the force sensor in the following order.

CAUTION
● Zero the force sensor before measurement: Ensure no load is applied, set HOLD OFF (press [HOLD] key), then press [HOLD] again. Verify reading is 0.

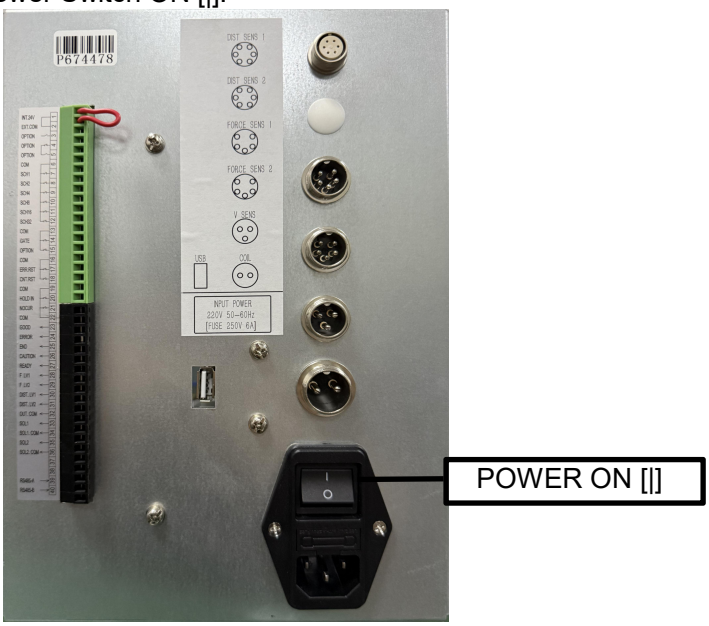
Connect the force sensor connector to the force sensor port on the rear panel of the PC-370B.



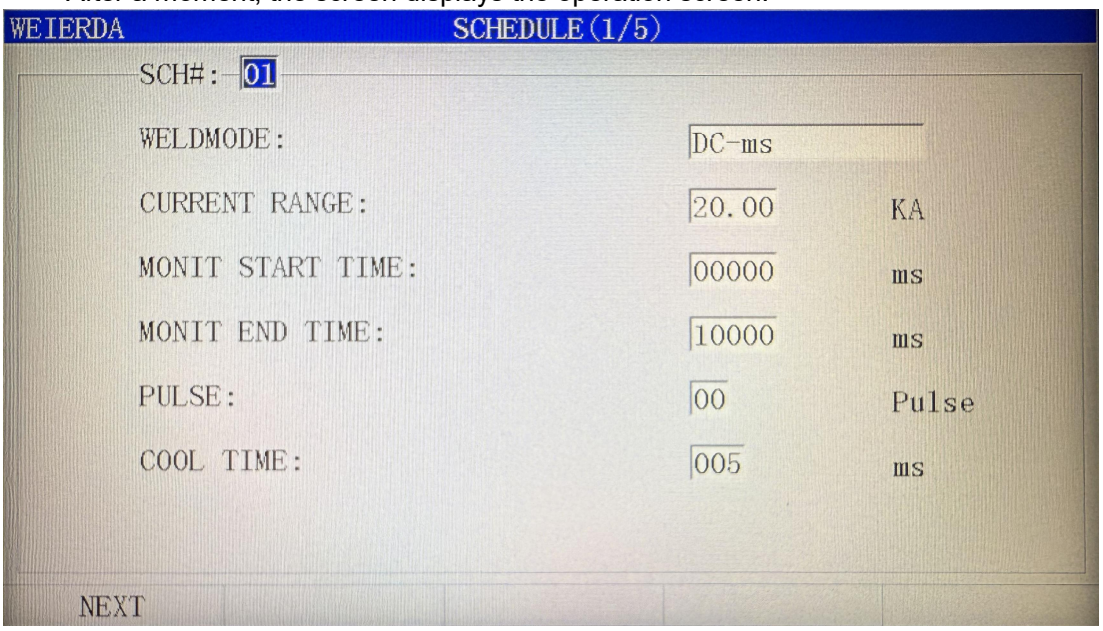
7.Basic Operation

（1） Startup

Turn the rear Main Power Switch ON [|].



After a moment, the screen displays the operation screen.



（2） Using the Encoder

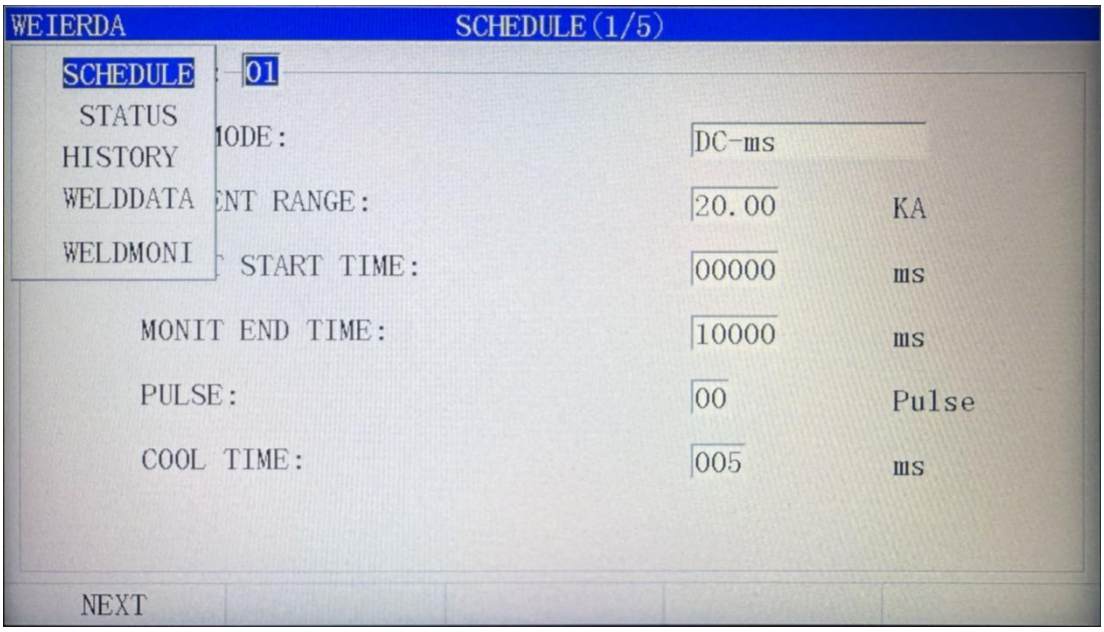
Explain the basic use of PC-370B encoder. Turn the encoder clockwise / counterclockwise to achieve the operations in the table below.

		Turn clockwise	Turn counterclockwise
	Menu selection	Down	Up
	moving cursor	Right or down	Left or up
	Change parameters	+(increase)	-(decrease)
	Select parameters	Next	Previous

After pressing the encoder, you can select menu items and parameters.

a. Menu selection

1) Press [MENU]. Menu list appears.

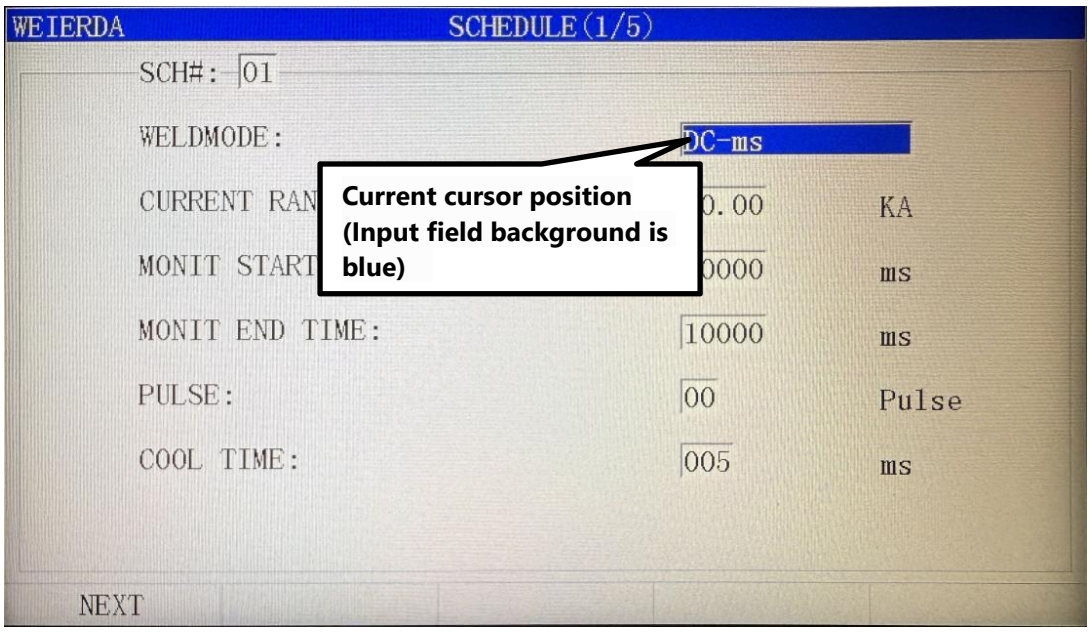


2) Turn encoder to highlight desired menu.

3) Press encoder to open the selected menu screen.

Please refer to "Chapter 7.4 Operation screen" for the operation method of each operation screen.

b. Setting Parameters



1) Turn encoder to move cursor to parameter field.

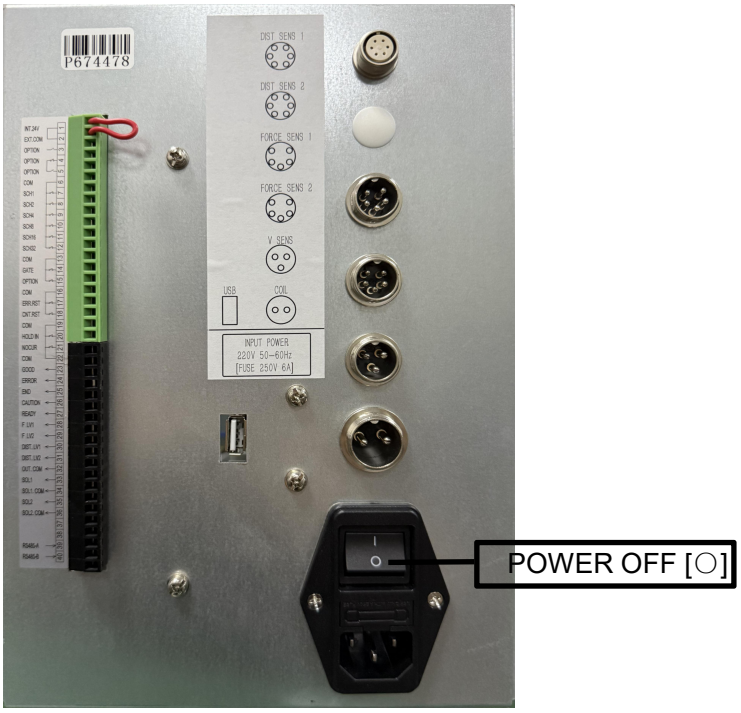
2) Press encoder to select/edit (field highlights).

3) Turn encoder to change value/option.

4) Press encoder to confirm.

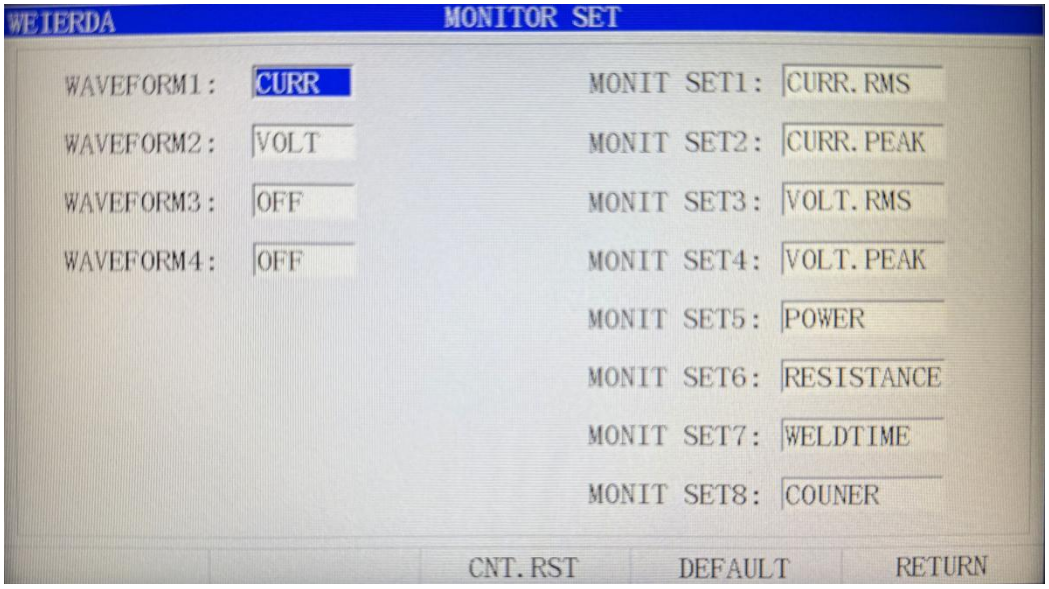
（3） Shutdown

Turn the main power switch on the rear panel OFF [○].



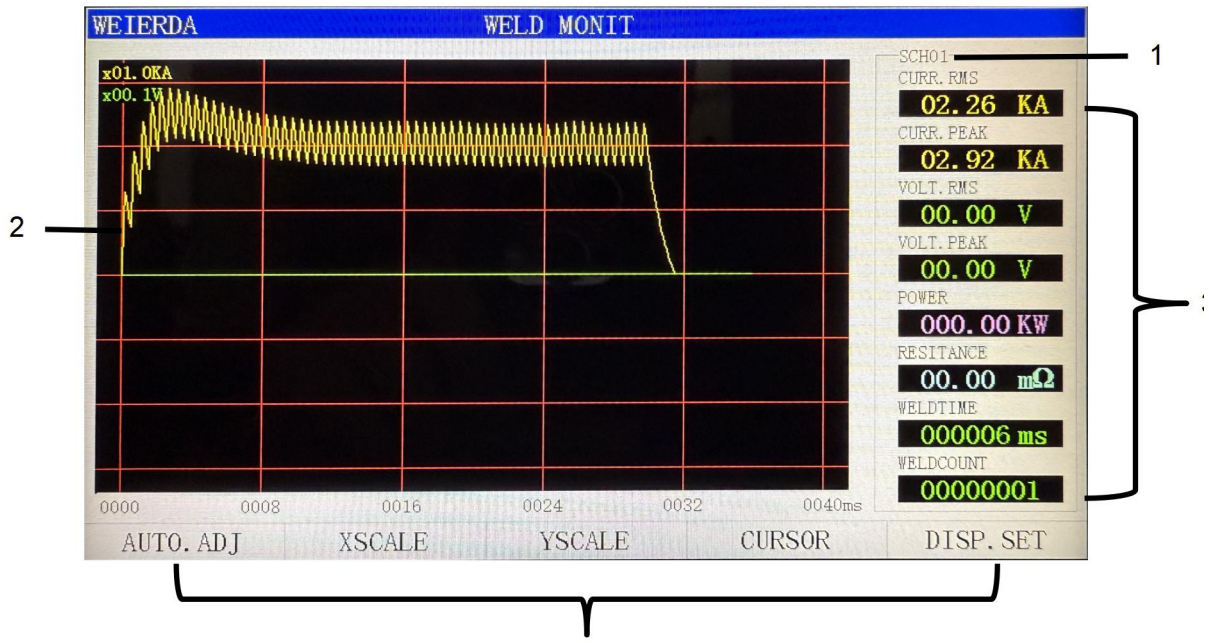
（4） Operation Screen

a. The display setting screen



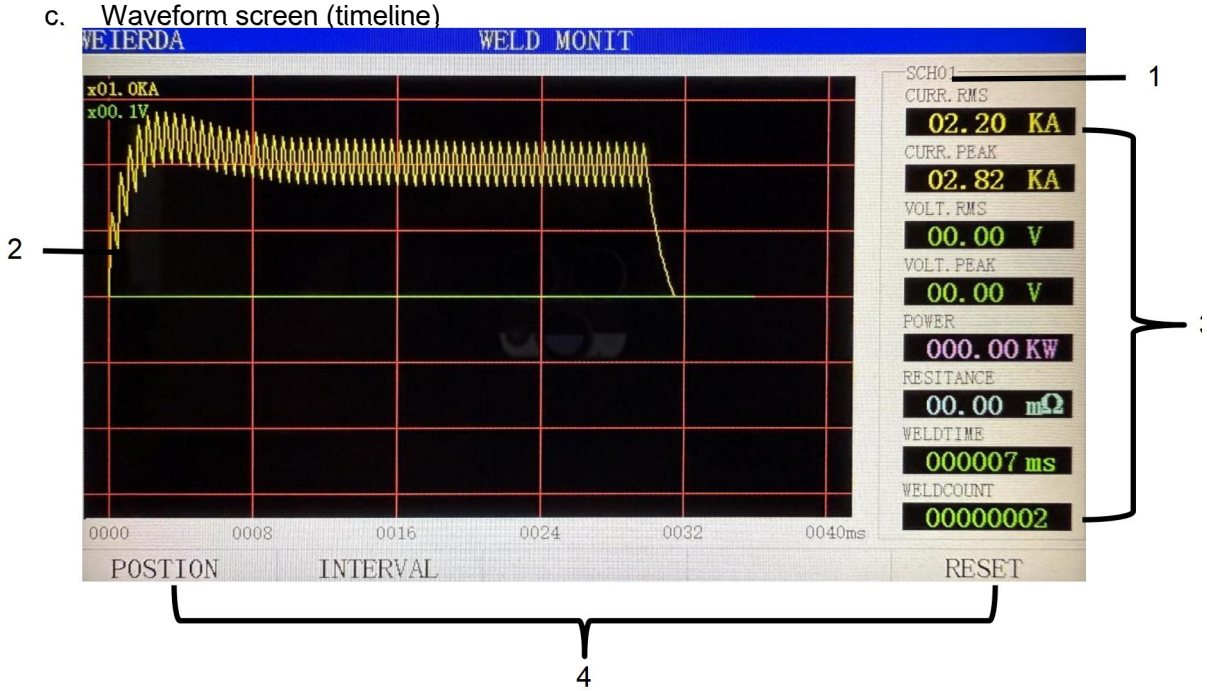
No.	Project	Explain	
(1)	Monitor set 1 to 8	Select measurements item from below. ● Curr.RMS Current Root Mean Square represents the effective value of an alternating current over one cycle. ● Curr.PEAK The highest instantaneous current value in a cycle.. ● Volt.RMS Voltage Root Mean Square represents the effective value of an alternating voltage over one cycle. ● Volt.PEAK The highest instantaneous voltage value in a cycle.. ● Power The average power value within the measurement interval. ● Resistance The average resistance value within the measurement interval. ● AC degree Phase angle of an AC waveform (in degrees) ● TP.time The duration for which holding force is maintained after the welding current is turned off, during the solidification phase of the weld nugget. ● Weld time The time for which the current is triggered until the power supply ends. ● Counter Display the number of measurements. The measurement count is independent of upper and lower limit determination. ● Force pv 1/2 The initial force applied by the electrodes before the welding current is activated, during the preloading stage. ● Force peak 1/2 The peak force. ● Force hold 1/2 The constant electrode force maintained during welding current application (also known as "welding maintenance force"). ● Stat force 1/2 Static force (initial pressure) applied by electrodes before welding starts. ● End force 1/2 Final holding force applied at the end of the welding cycle, during the post-weld pressure-holding phase. ● Dist.pv 1/2 Pre-weld displacement, the electrode travel before welding current is applied. ● Dist.peak 1/2 Peak displacement, the maximum electrode travel during welding. ● Dist.hold 1/2 Holding displacement, maintained constant during the pressure-holding stage. ● Weld.dist 1/2 Welding displacement, the electrode travel from current initiation to cutoff. ● Start dist 1/2 Initial displacement, the electrode’s starting position (referenced to zero) at the cycle start. ● End dist 1/2 Final displacement, the electrode’s position at the cycle end.	
(2)	Waveform 1 to 4	Select four waveform display items from below. Current, voltage, resistance, force, displacement	
(3)	Display switch	Use ON/OFF toggle to display waveform of each item.	
(4)	Function key	Return	Press the operation key E to return the screen to the previous screen (measurement screen or waveform screen).

b. Waveform screen



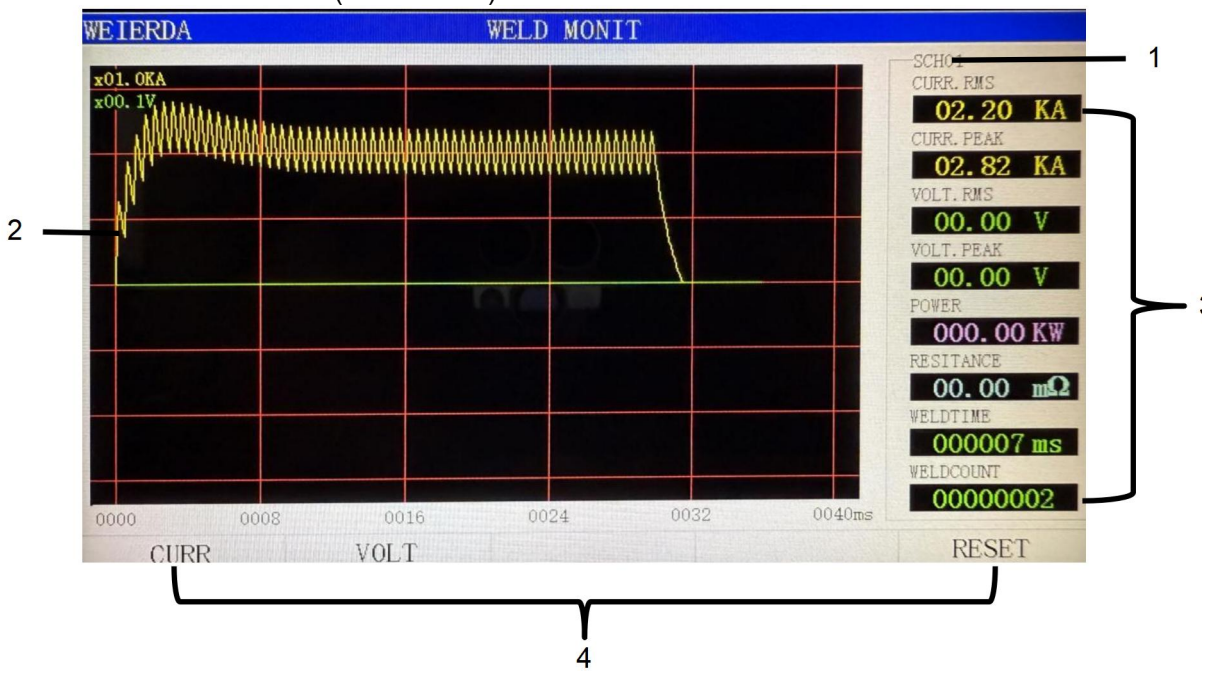
No.	Project	Explain	
(1)	SCH.#	Represents the applicable measurement condition number (1~63). Select this column to change the condition by turning the encoder clockwise / counterclockwise. The condition content can be set through the condition (1)~(4) screen.	
(2)	Wave form	Three waveforms are displayed on the window. The waveform display items can be selected on the display setting screen.	
(3)	Measured value	Six measured parameters are displayed. The measurement items can be selected on the display setting screen.	
(4)	Function key	AUTO. ADJ	Press key A to use the Auto-Scaling (FIT) function to adjust the waveform to the optimal size for the screen and then display it again.
		XSCALE	Press key B to display waveform screen (timeline).
		YSCALE	Press key C to display waveform screen (vertical axis).
		CURSOR	Press key D to display waveform measurement screen and switch to measurement mode.
		DISP. SET	Press key E to switch to the display setting screen.

c. Waveform screen (timeline)



No.	Project	Explain	
(1)	SCH.#	Represents the applicable measurement condition number (1~63). Select this column to change the condition by turning the encoder clockwise / counterclockwise. The condition content can be set through the condition (1)~(4) screen.	
(2)	Wave form	Three waveforms are displayed on the gate. The waveform display items can be selected on the display setting screen.	
(3)	Measured value	Four measured parameters are displayed. The measurement items can be selected on the display setting screen.	
(4)	Function key	POSITIPN	After pressing the operation key A, the waveform position can be moved. In this state, turning encoder clockwise / counterclockwise can adjust the waveform position from left to right. Press the operation key A again to return the waveform position to the fixed state.
		INTERVAL	After pressing the operation key B, the waveform window interval can be adjusted. In this state, turning encoder clockwise / counterclockwise can increase or decrease the windows interval of the waveform time axis (X-axis). Press the operation key B again to return the waveform window interval to the fixed state.
		RESET	Press key E to return to waveform screen.

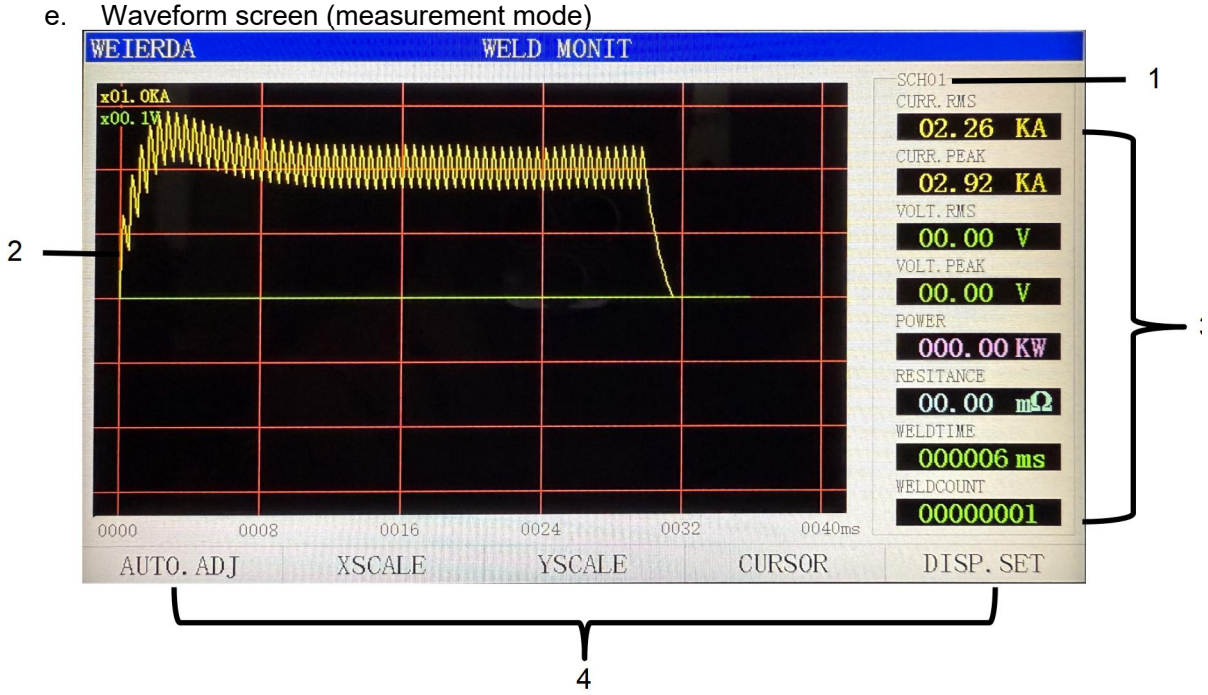
d. Waveform screen (vertical axis)



No.	Project	Explain
(1)	SCH.#	Represents the applicable measurement condition number (1~63). Select this column to change the condition by turning the encoder clockwise / counterclockwise. The condition content can be set through the condition (1)~(4) screen.
(2)	Wave form	Three waveforms are displayed on the window. The waveform display items can be selected on the display setting screen.
(3)	Measured value	Four measured parameters are displayed. The measurement items can be selected on the display setting screen.

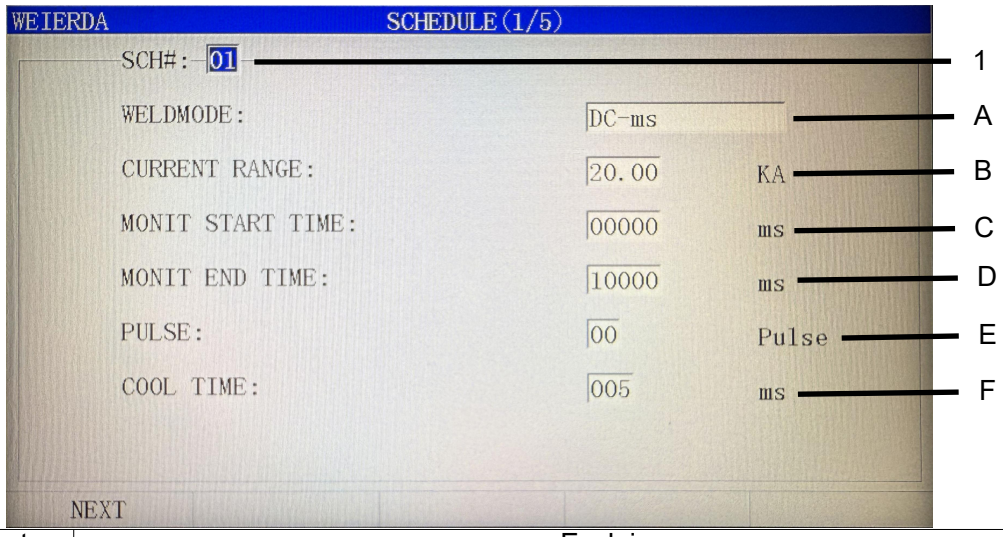
No.	Project	Explain	
(4)	Function key	The function keys above the operation keys A~D represent the names of the waveform items. The names displayed vary depending on the selected waveform item. (In the above example, the waveform display items [current] [voltage] are selected, so the names of these two items are displayed on the function keys.) Press keys A~D to allow adjustment of the window interval on the waveform vertical axis (Y-axis) for each item. In this state, turning encoder clockwise / counterclockwise can increase or decrease the window interval on the waveform vertical axis (Y-axis). Press key A~ D again to return to the locked state of the waveform vertical axis (Y-axis) window interval.	
		Return	Press key E to return to waveform screen.

e. Waveform screen (measurement mode)



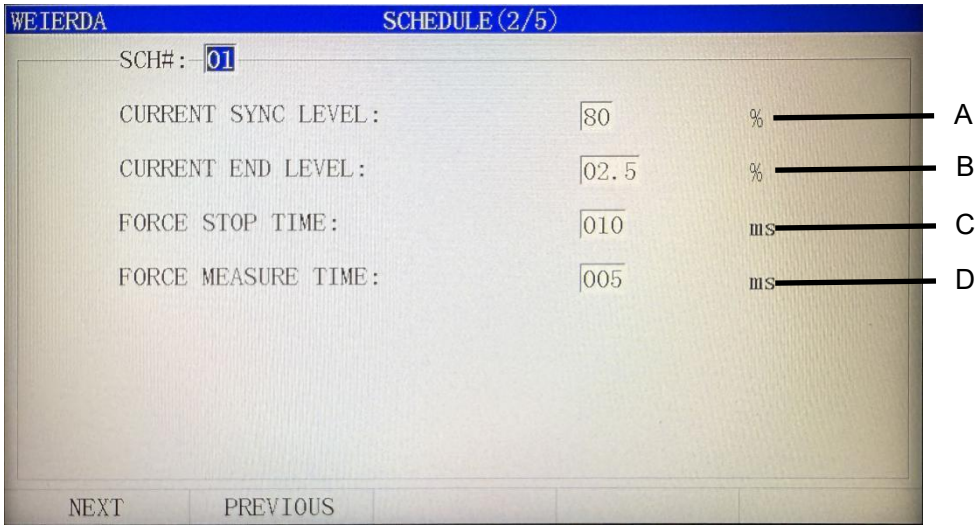
No.	Project	Explain	
(1)	SCH.#	Represents the applicable measurement condition number (1~63). Select this column to change the condition by turning the encoder clockwise / counterclockwise. The condition content can be set through the condition (1)~(4) screen.	
(2)	Wave form	Three waveforms are displayed on the windows. The waveform display items can be selected on the display setting screen.	
(3)	Position in-formation of the cursor	Represent the current cursor position. moves the white line (cursor) on the grid by turning encoder clockwise / counterclockwise	
(4)	Measured value	The waveform measurement values indicating the time of the cursor are shown.	
(5)	Function key	Auto ADJ	Press key A to use the Auto-Scaling (FIT) function to adjust the waveform to the optimal size for the screen and then display it again.
		X Scale	Press key B to display waveform screen (timeline).
		Y Scale	Press key C to display waveform screen (vertical axis).
		Measure	Press key D to terminate the measurement mode.
		Display	Press key E to return to the display setting screen.

f. Schedule 1



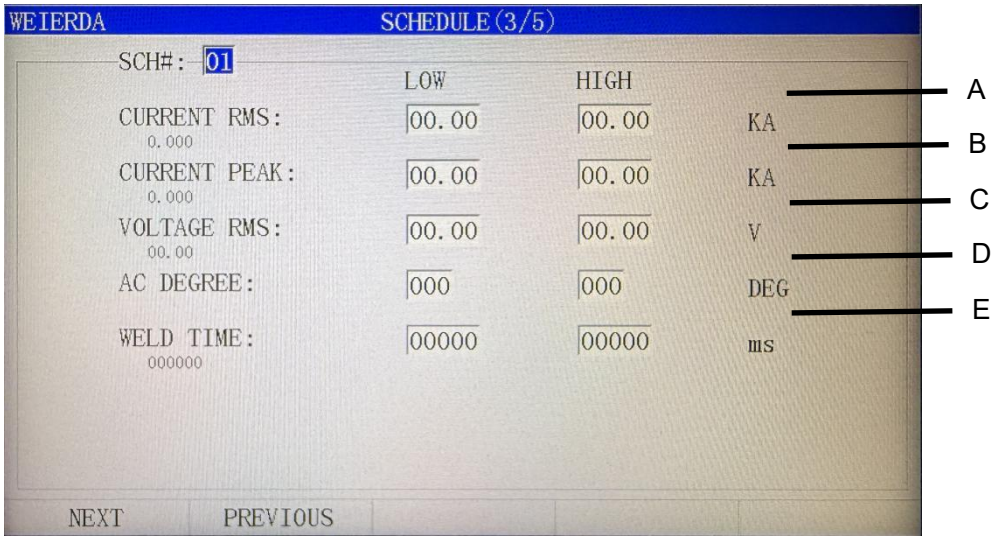
No.	Project	Explain
(1)	SCH.#	Select the measurement condition number (1~63) preset in the screen of condition (1) ~ (4). Select this column with the encoder to change the condition number by turning encoder clockwise / counterclockwise.
(A)	Measurement pattern	AC-CYC-50/60Hz、AC-CYC-xxxHz、AC-ms、AC-ms-Short、DC-CYC-50/60Hz、DC-ms、DC-ms-Short 、DC-ms-CapLong 、DC-ms- CapShort
(B)	Current range	2.000kA、6.000kA、20.00kA、60.00kA、200.0kA
(C)	Start time	0~10000ms
(D)	End time	0~10000ms
(E)	Pulse	0~99 pulse
(F)	Cool time	1~100ms

g. Schedule 2



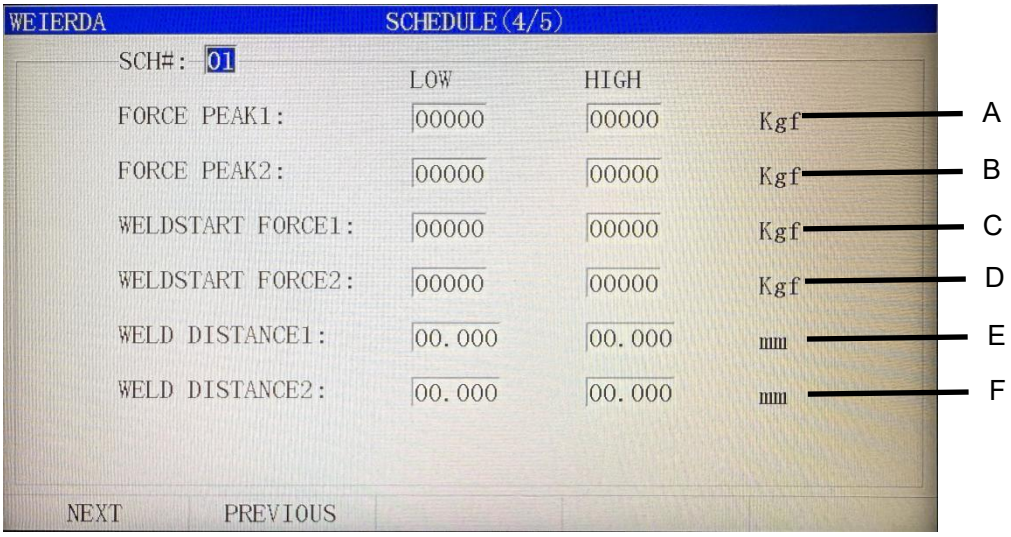
No.	Project	Explain
(A)	Current synchronous level	10~90%
(B)	The final level of current	2~15%
(C)	Force Stop time	10~100ms
(D)	Force Measure time	5~100ms

h. Schedule 3



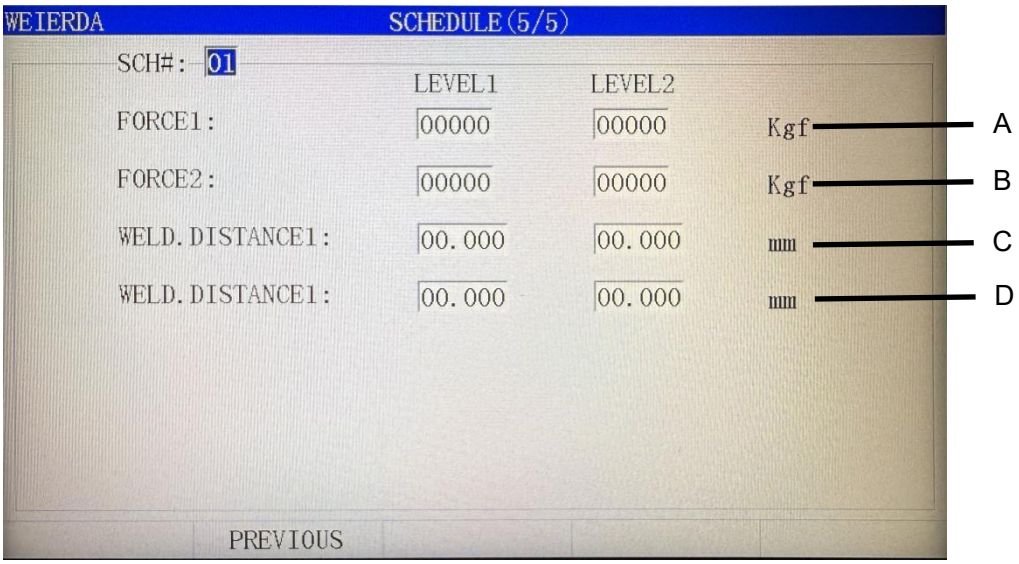
No.	Project
(A)	Current RMS
(B)	Current PEAK
(C)	Voltage RMS
(D)	AC degree
(E)	Weld time

i. Schedule 4



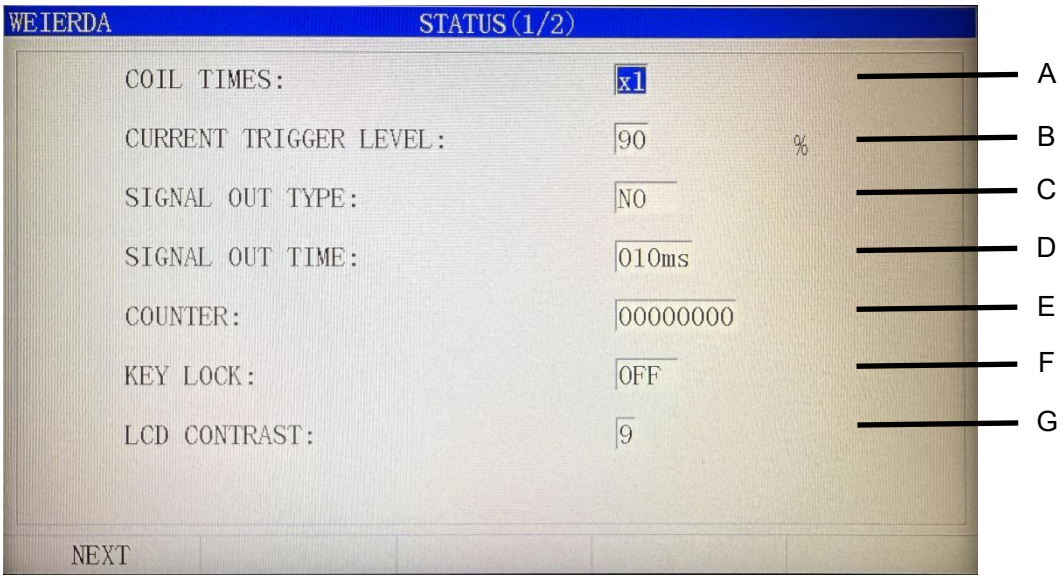
No.	Lower limit
(A)	Force peak
(B)	
(C)	Weld force
(D)	
(E)	Welding depth
(F)	

j. Schedule 5



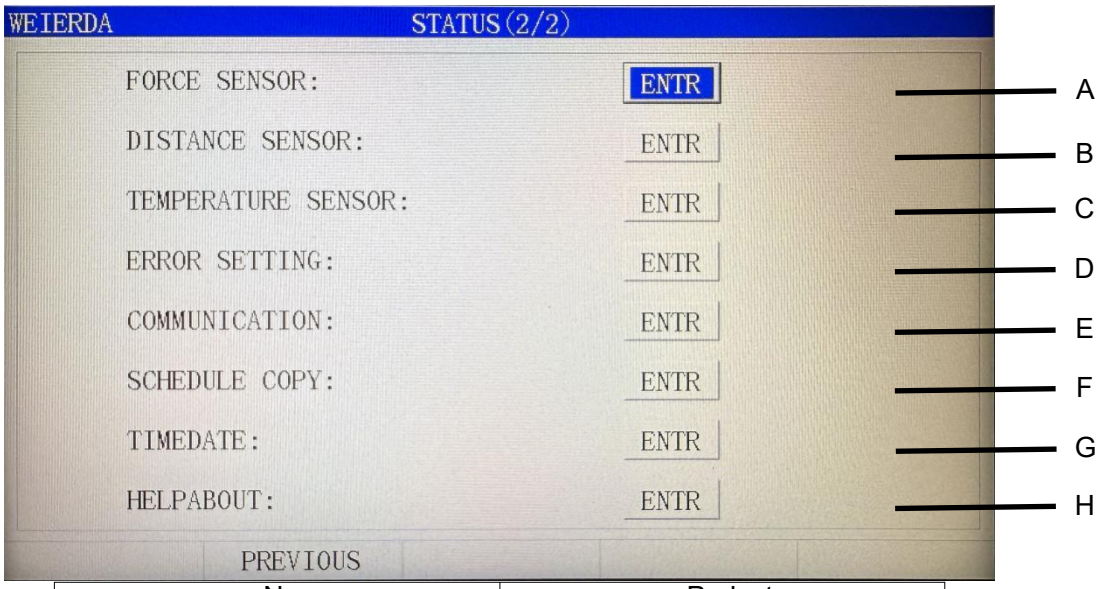
No.	Project
(A)	force output level
(B)	
(C)	Displacement output level
(D)	

k. Status 1



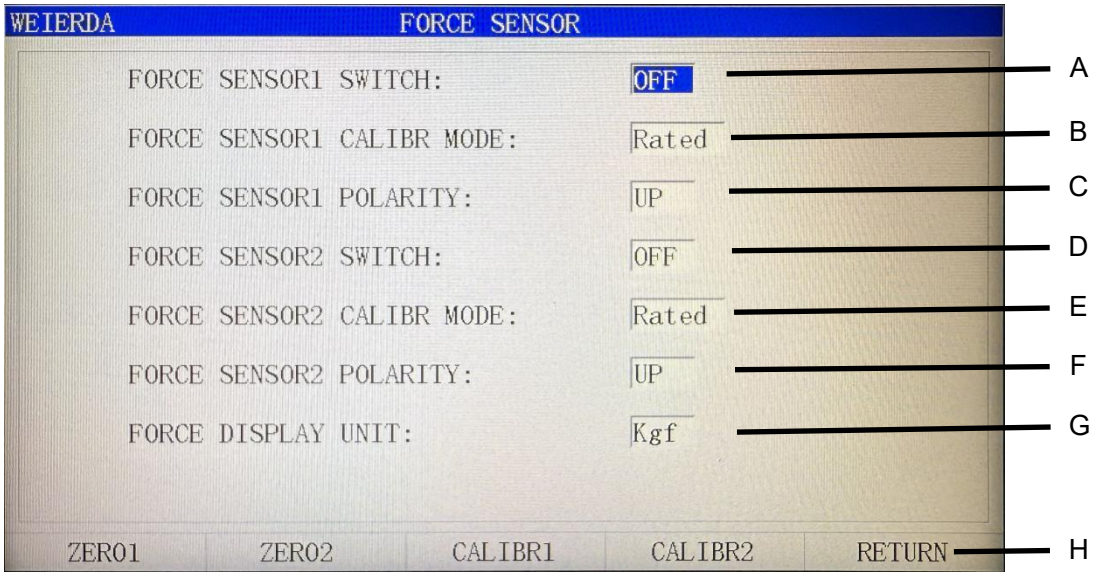
No.	Project	Explain
(A)	Coil ratio	X1~x10
(B)	Current trigger sensitivity	1~90%
(C)	Output signal type	Always on / always off
(D)	Output signal time	10~200ms
(E)	Counter	0~99999999
(F)	Key lock	Close/open
(G)	Display backlight	1~9

I. Status 2



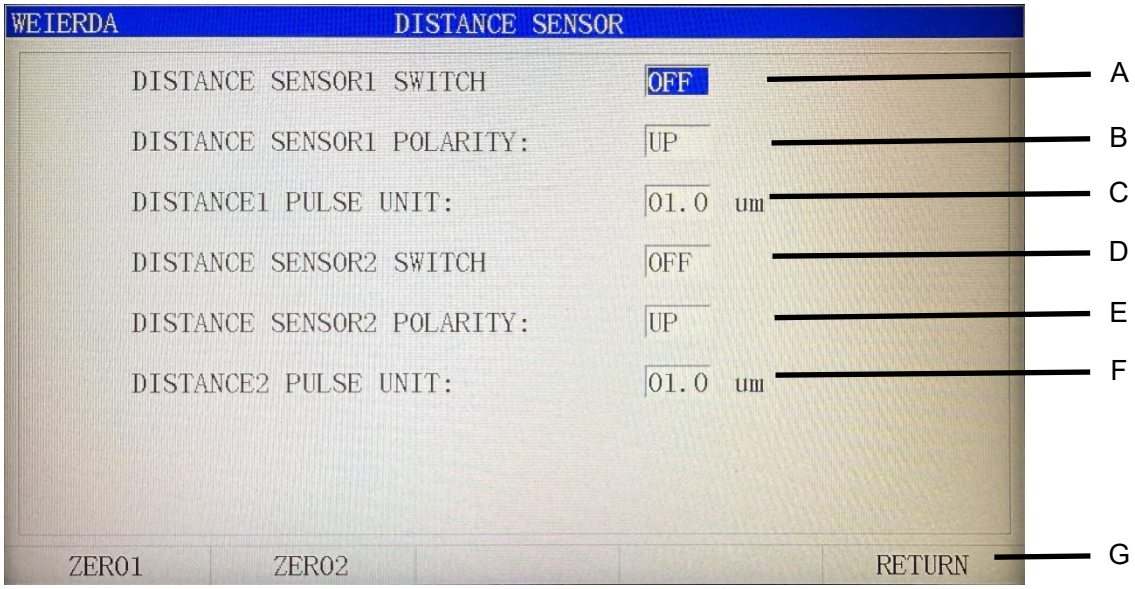
No.	Project
(A)	force sensor set
(B)	Set the displacement sensor
(C)	Temperature sensor setting
(D)	Alarm Settings
(E)	Communication Settings
(F)	Standardize replication
(G)	Time set
(H)	Help about

（5） Force Sensor Setting Screen



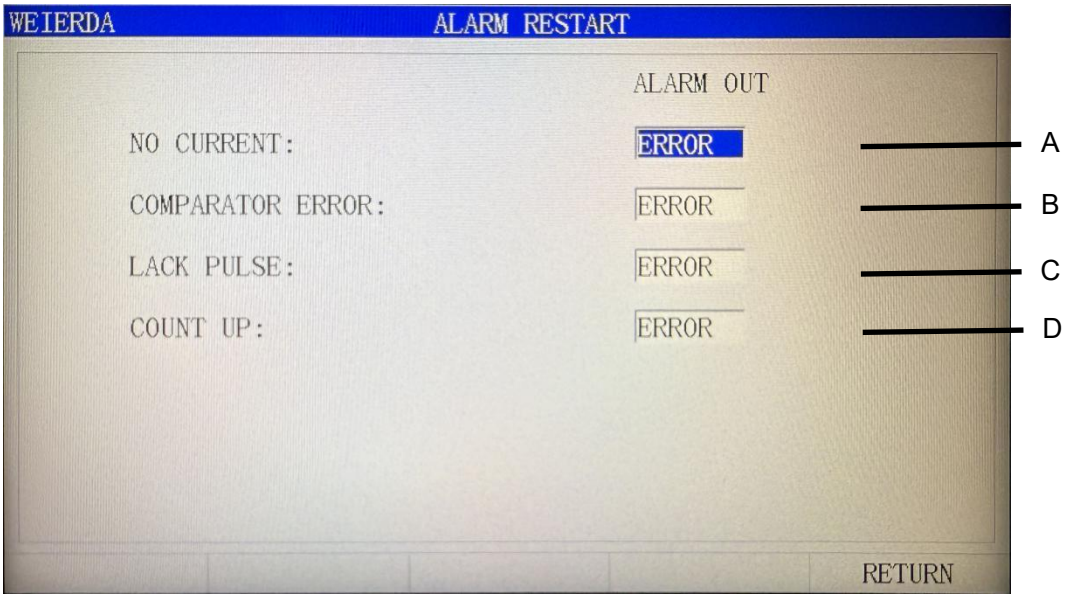
No.	Project	Explain
(A)	Force sensor 1 switch	Close/open
(B)	Force sensor 1 calibration mode	Rated/weight
(C)	Force sensor 1 polarity	Up/down
(D)	Force sensor 2 switch	Close/open
(E)	Force sensor 2 calibration mode	Rated/weight
(F)	Force sensor 2 polarity	Up/down
(G)	Force display unit	Kgf/N

（6） Displacement Sensor Setting Screen



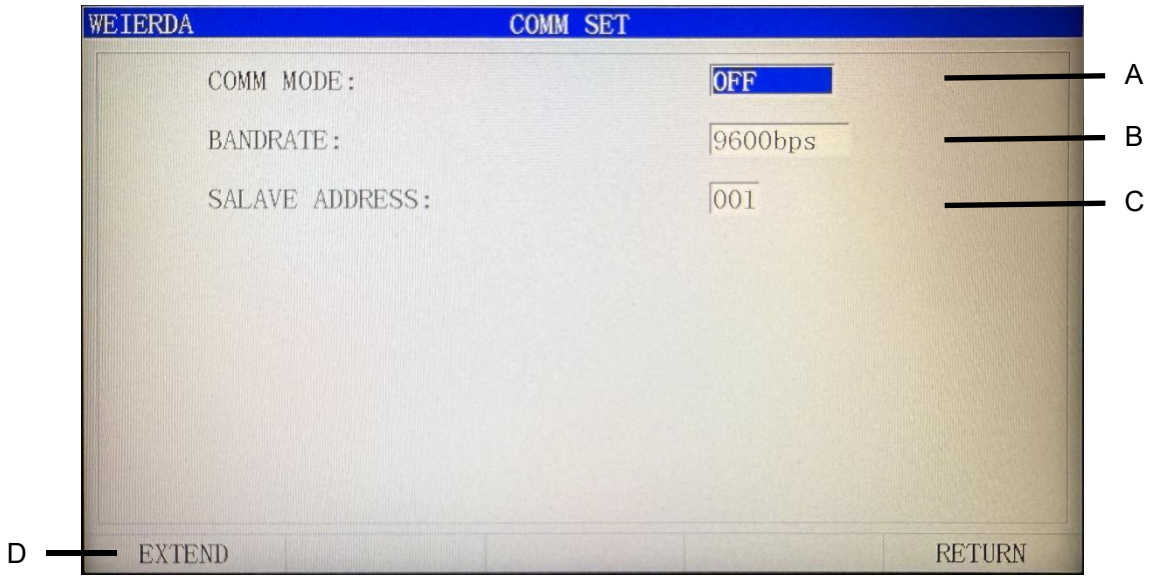
No.	Project	Explain
(A)	Displacement sensor switch	Close/open
(B)	Displacement sensor polarity	Up/down
(C)	Displacement pulse unit	0.01~100 um is optional
(D)	Displacement sensor switch	Close/open
(E)	Displacement sensor polarity	Up/down
(F)	Displacement pulse unit	0.01~100 um is optional

（7） Alarm Setting Screen



No.	Project	Explain
(A)	No current	ERROR/CAUTION (I/O terminal output is optional)
(B)	Comparator error	ERROR/CAUTION (I/O terminal output is optional)
(C)	Lack pulse	ERROR/CAUTION (I/O terminal output is optional)
(D)	Count up	ERROR/CAUTION (I/O terminal output is optional)

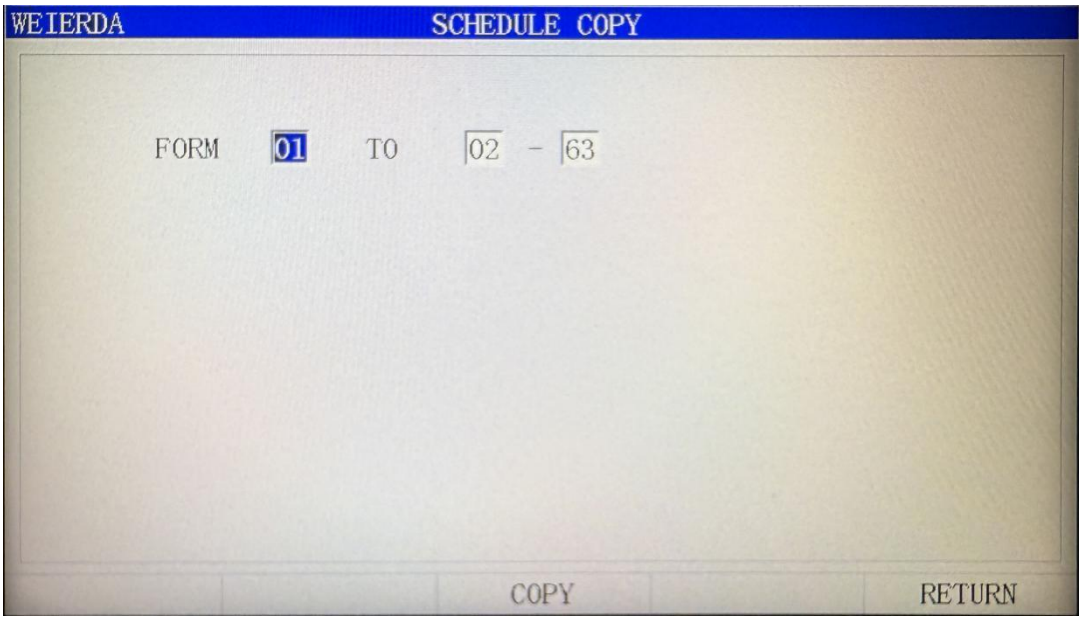
（8） Communication Settings screen



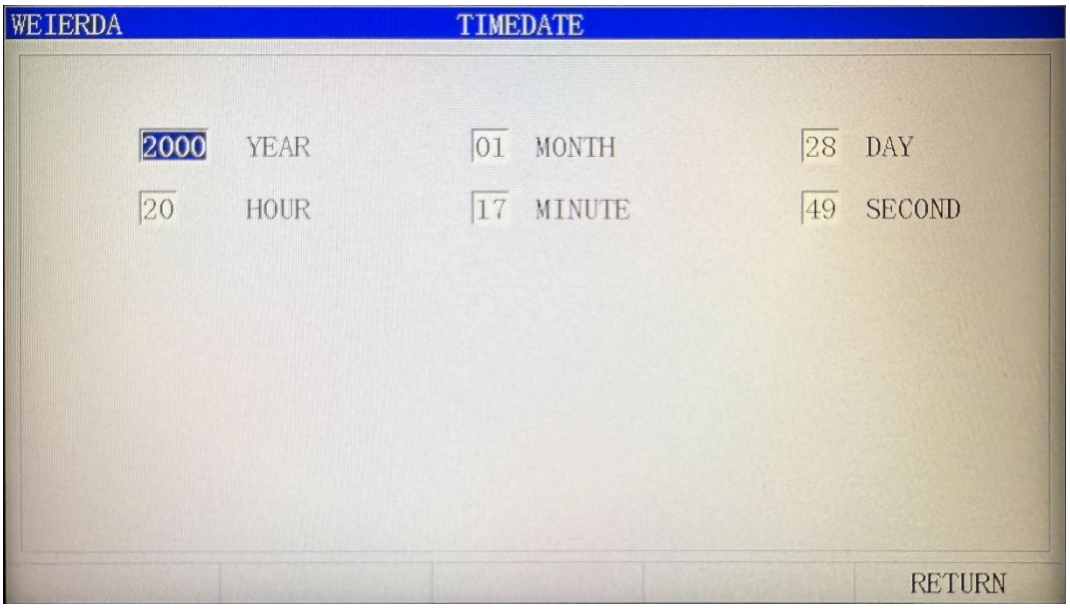
No.	Project	Explain		
(A)	Communication mode	Close/data storage/MODBUS optional		
(B)	Baud rate	9600/19200/38400/115200 bps		
(C)	Slave address	001~100 is optional		
(D)	Expand the data			
	Force 1	Force 2	Displacement	Temperature
	0/1	0/1	0/1	0/1
	Close/open	Close/open	Close/open	Close/open

（9） Standard Copy Screen

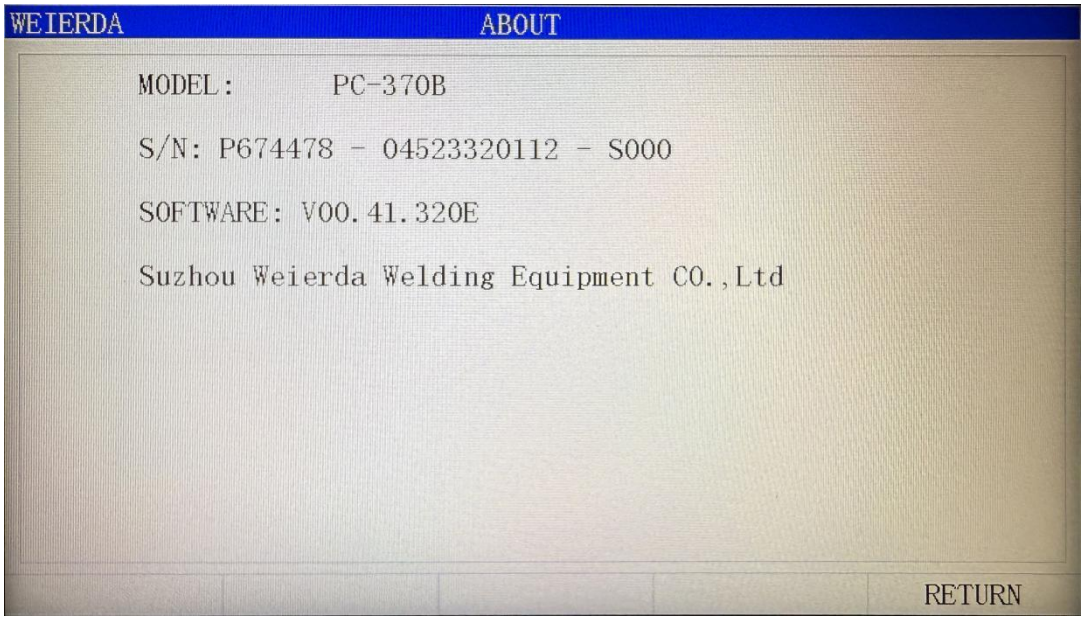
After entering, you can copy the specifications you want to copy into the specifications you want to copy.



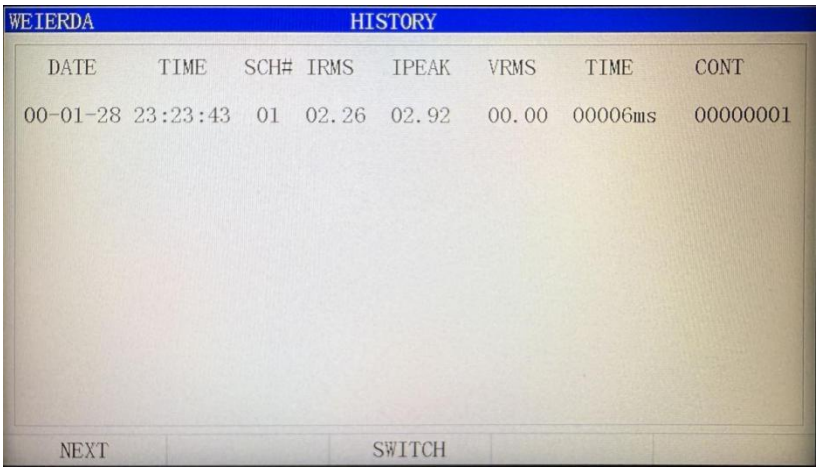
（10） Time Settings



（11） About



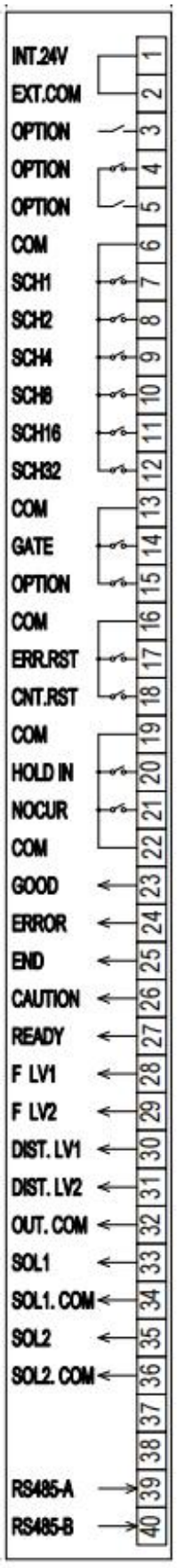
（12） History Inquiry



The welding measurement history data rolling coverage can store up to 20 sets of data.

8.I/O interfaces.

（1） I/O Interfaces Diagram



（2） I/O Port Description

a. Input Ports

Port No.	Description
1	The DC24V output terminal is led out from inside the device. When it leaves the factory, it is shorted to terminal 2. Because it is a power supply for external input signals, do not use it for other purposes.
2	Use this terminal when connecting to a device with a contact or NPN open collector input (when using an internal power supply). Use this terminal to connect to a device with an NPN open collector input (when using an external power supply) or a PNP current input.
3	OPT input terminal, for backup. Do not make any connections to this terminal.
4	OPT input terminal, for backup. Do not make any connections to this terminal.
5	OPT input terminal, for backup. Do not make any connections to this terminal.
6	Standardize input terminals. 20= standardize input common terminals
7~12	Standardize input terminals. 6=standardize input common terminals, 7=condition 1, 8= condition 2, 9=condition 4, 10=condition 8, 11=condition 16,12=condition 32
13	COM terminal
14	GATE signal input terminal. During the closed circuit of this terminal, the action is stopped. Stop the test by entering a signal before the 10ms welding current is turned on. No signal is accepted during the test (including the pulse count measurement action).
15	OPT input terminal, for backup. Do not make any connections to this terminal.
16	COM terminal
17	Abnormal reset input terminal. One circuit is closed, and the abnormal output will be removed.
18	Count reset input signal
19	COM terminal
20	Keep the instantaneous force of closure and measure the displacement.

b. Output Ports

Port No.	Description
21	NO CURR Signal input terminals are used. Please place it in a closed state before the conduction of 10ms welding current, and place it in an open state after the welding current is conducted. When this terminal is in closed state, no welding current flows; when it is open state, no power indicator light is lit.
22	COM terminal
23	The GOOD signal output is provided by the terminal post. (Semiconductor relay, contact capacity: DC24V,20mA) When the measured value is set within the range of the upper and lower value determination function, the closed circuit output will be output for a certain time.
24	Output of abnormal signals. Output when an anomaly occurs.
25	End signal output. Output the set time.
26	Output of warning signal. Output when a warning occurs. Warning can be restarted without resetting.
27	The output is ready. When the following conditions are met, the output control state is entered and the signal is output: The HOLD indicator on the front panel is OFF.
28	Channel 1 force output point 1 is set. When the force sensor of channel 1 detects that the instantaneous force exceeds the set force value of channel 1 LEVEL1, the signal output of this point is closed
29	Channel 2 force output point 1 is set. When the instantaneous force of channel 2 sensor exceeds the set force value of channel 2LEVEL1, the signal output of this point is closed
30	Channel 1 displacement output point 1 is set. When the displacement sensor of channel 1 detects that the instantaneous displacement exceeds the displacement value set by channel 1LEVEL1, the signal output of this point is closed
32	The common terminal of the output terminal, which can only be connected to the negative power supply (COM)
33	Reserve the output terminals of SOL1 solenoid valve
34	Reserve the output com terminal of SOL1 solenoid valve
35	Reserve the output terminals of SOL2 solenoid valve
36	Reserve the output com terminal of SOL2 solenoid valve
31/37/38	Reserve
39~40	RS-485 data output terminal. 39 =+ and 40 =-

c. Welding Specification Number

63 specification inputs: The specifications #1 to #63 are selected by the combination of open and closed circuits of the standard input signals [SCHEDULE1], [SCHEDULE2], [SCHEDULE4], [SCHEDULE8], [SCHEDULE16], and [SCHEDULE32] through the back I/O terminal platform.

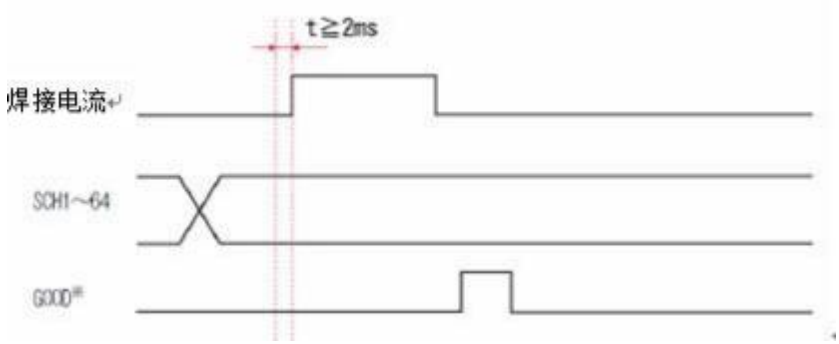
※You can select internal or external startup in menu - function Settings -Specification selection.

○: closed circuit space: open circuit

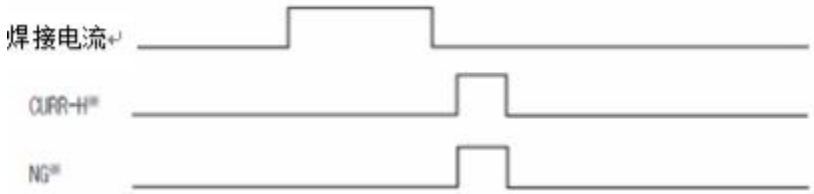
Standard number#	SCHEDULE 1	SCHEDULE 2	SCHEDULE 4	SCHEDULE 8	SCHEDULE 16	SCHEDULE 32	Parity
1	○						
2		○					
3	○	○					○
4			○				
5	○		○				○
6		○	○				○
7	○	○	○				
8				○			
9	○			○			○
10		○		○			○
11	○	○		○			
12			○	○			○
13	○		○	○			
14		○	○	○			
15	○	○	○	○			○
16					○		
17	○				○		○
18		○			○		○
19	○	○			○		
20			○		○		○
21	○		○		○		
22		○	○		○		
23	○	○	○		○		○
24				○	○		○
25	○			○	○		
26		○		○	○		
27	○	○		○	○		○
28			○	○	○		
29	○		○	○	○		○
30		○	○	○	○		○
31	○	○	○	○	○		
32						○	
33	○					○	○
34		○				○	○
35	○	○				○	
36			○			○	○
37	○		○			○	
38		○	○			○	
39	○	○	○			○	○
40				○		○	○
41	○			○		○	
42		○		○		○	○
43	○	○		○		○	
44			○	○		○	
45	○		○	○		○	○
46		○	○	○		○	○
47	○	○	○	○		○	
48					○	○	○
49	○				○	○	
50		○			○	○	
51	○	○			○	○	○
52			○		○	○	
53	○		○		○	○	○
54		○	○		○	○	○
55	○	○	○		○	○	
56				○	○	○	
57	○			○	○	○	○
58		○		○	○	○	○
59	○	○		○	○	○	
60			○	○	○	○	○
61	○		○	○	○	○	
62		○	○	○	○	○	
63	○	○	○	○	○	○	○

9.Time Chart

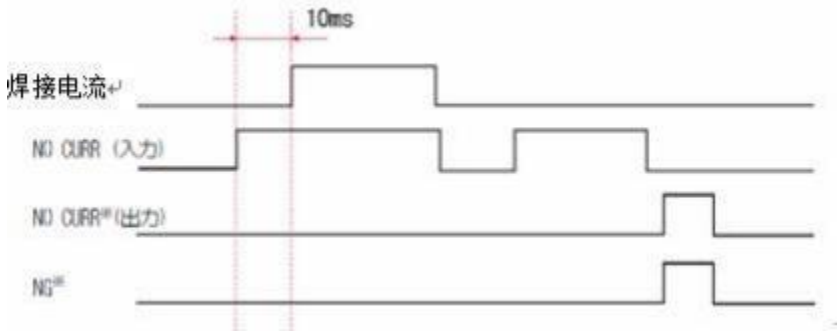
（1） Typical Measurement



（2） Error Occurs (abnormal upper limit of current)



（3） NO CURR, Input Signal



10. Data Communication

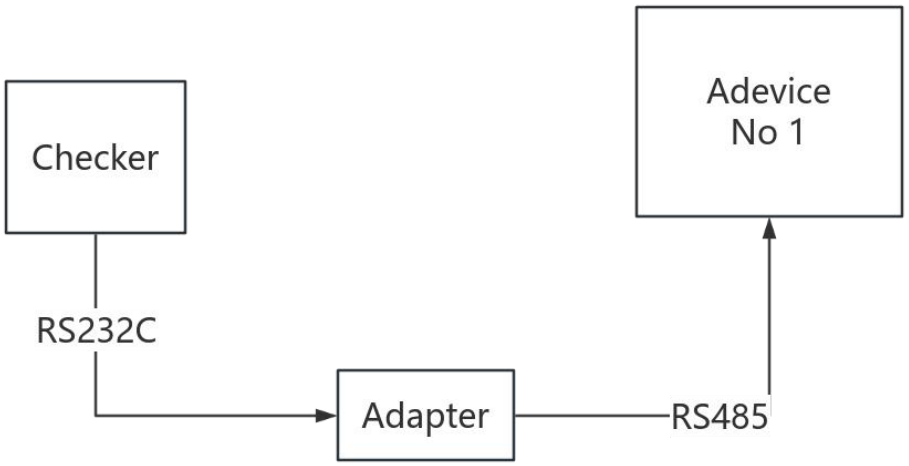
The PC-370B can read monitoring data connected to an external computer.

（1） Data Forwarding

Project	Content
Mode	RS-485/Data synchronization mode
Transmission speed	9600/19200/38400bps
Data format	Start bit: 1, data bit: 8 Stop bit: 1. Oddity: None
Verify the total data	None
Interface	When RS-485 is used, port 39: RS+, port 40: RS-

（2） Connection

In the case of RS-485



Note) RS-232C/RS-485 conversion adapter is not an accessory of the product. Please prepare it separately.This device can only be connected to 1 unit.

11. Fault Code

Fault Code Reference Table

Fault Code	Description	Causes	Recommended Actions
E20	SDRAM Fault	• Memory module hardware failure • Data read/write corruption	Check the fuse. If the fuse is not burnt, contact Weierda support.
E30	Integrator Fault	• Current/voltage integration circuit failure • Signal interference or • Calibration failure	
E32	No Current (NO CURR)	• Secondary induction coil is not connected • Coil is damaged • Welding current is not triggered or • Wiring is wrong	1. Check coil connections 2. Confirm that the welder is started 3. Replace coil or 4. Check cable
E51	Monitoring Value Exceeds Limits	• The measured value (current, force, displacement, etc.) exceeds the preset upper and lower limits	1. Check the workpiece or electrode 2. Adjust process parameters 3. Check alarm set values
E52	Count Overflow	• Welding count ≥ preset value	1. Reset counter 2. Adjust the upper limit of counter
E53	Trigger exception	• Actual welding time> preset maximum value (may be due to controller failure or power fluctuation)	1. Check range setting 2. Check measurement mode setting 3. Check trigger level setting
E54	Insufficient Pulses	• Actual pulses < "Pulse" setting • GATE signal interference	1. Verify welder pulse trigger signal. 2. Review pulse Settings
E99	Contact Manufacturer	• Undefined hardware/system failure	Immediately cease operations and contact Weierda support.

12. Specifications

External data output	RS-485
Condition number	63 sets
Power source	AC127V± 10% (50/60Hz)
Running temperature	0℃~45℃
Outline dimension	275mm(H)x181mm(W)x290mm(D) (excluding protrusions)
Weight	~7kg
Power	50W

13. Check

To ensure the functionality of the PC-370B, regular calibration is required. The calibration shall be carried out in our company.

When calibrating, please send the PC-370B, include the secondary induction coil and the force sensor used together, to our company. The degradation of each unit varies according to the operating environment, so the whole set of PC-370B, secondary induction coil and force sensor must be calibrated.

For details of the calibration, please contact us.

14. Layout

(unit:mm)