TOUCH SCREEN
PROGRAMMABLE CONTROLLER

PCT-200

INSTRUCTION MANUAL

Shinko

Preface

Thank you for purchasing our PCT-200, Touch Screen Programmable Controller.
This manual contains overview, functions, operation methods and notes for operating the PCT-200.
For the mounting and wiring, refer to the instruction manual of each connected instrument.
To ensure safe and correct use, thoroughly read and understand this manual and each manual of the connected instruments before using this instrument.
To prevent accidents arising from the misuse of this controller, please ensure the operator receives this manual and each manual of the connected instruments.

Abbreviations used in this manual

Symbol	Term
PV	Process variable
SV	Desired value
MV	Output manipulated variable
AT	Auto-tuning

⚠ Caution

- This instrument should be used in accordance with the specifications described in the manual. If it is not used according to the specifications, it may malfunction or cause a fire.
- Be sure to follow all of the warnings, cautions and notices in this manual and each manual of the connected instruments. If they are not observed, serious injury or malfunction may occur.
- The contents of this manual and each manual of the connected instruments are subject to change without notice.
- Care has been taken to assure that the contents of this manual and each manual of the connected instruments are correct, but if there are any doubts, mistakes or questions, please inform our sales department.
- Measures must be taken to ensure that the operator cannot touch power terminals or other high voltage sections.
- Any unauthorized transfer or copying of this document and each manual of the connected instruments, in part or in whole, is prohibited.
- Shinko Technos Co., Ltd. is not liable for any damage or secondary damage(s) incurred as a result of using this product, including any indirect damage.

Safety Precautions (Be sure to read these precautions before using our products.)

The safety precautions are classified into 2 categories: “Warning” and “Caution”. Depending on the circumstances, procedures indicated by ⚠ Caution may cause serious results, so be sure to follow the directions for usage.

⚠ Warning Procedures which may lead to dangerous conditions and cause death or serious injury, if not carried out properly.

⚠ Caution Procedures which may lead to dangerous conditions and cause superficial to medium injury or physical damage or may degrade or damage the product, if not carried out properly.

⚠ Warning

- To prevent an electric shock or fire, only Shinko or other qualified service personnel may handle the inner assembly of each instrument.
- To prevent an electric shock, fire or damage to the instruments, parts replacement may only be undertaken by Shinko or other qualified service personnel.

⚠ SAFETY PRECAUTIONS

- To ensure safe and correct use, thoroughly read and understand this manual and each manual of the connected instruments before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after purpose-of-use consultation with our agency or main office. (Never use this instrument for medical purposes with which human lives are involved.)
- External protection devices such as protective equipment against excessive temperature rise, etc. must be installed, as malfunction of this product could result in serious damage to the system or injury to personnel. Also proper periodic maintenance is required.
- This instrument and the connected instruments must be used under the conditions and environment described in this manual and each manual of the connected instruments. Shinko Technos Co., Ltd. does not accept liability for any injury, loss of life or damage occurring due to the instruments being used under conditions not otherwise stated in this manual and each manual of the connected instruments.

Caution with respect to Export Trade Control Ordinance

To avoid this instrument from being used as a component in, or as being utilized in the manufacture of weapons of mass destruction (i.e. military applications, military equipment, etc.), please investigate the end users and the final use of this instrument. In the case of resale, ensure that this instrument is not illegally exported.

This manual describes the Touch Screen Programmable Controller (PCT-200), consisting of Touch Screen (LT3300) and Temperature Control Module (WCL-13A).

- Touch Screen LT3300: Made by Digital Electronics Corp.
- Temperature Control Module WCL-13A: Made by Shinko Technos Co., Ltd.

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1. Overview

When delivered, please check the contents of package to confirm that all items you have ordered are contained as follows.

Model

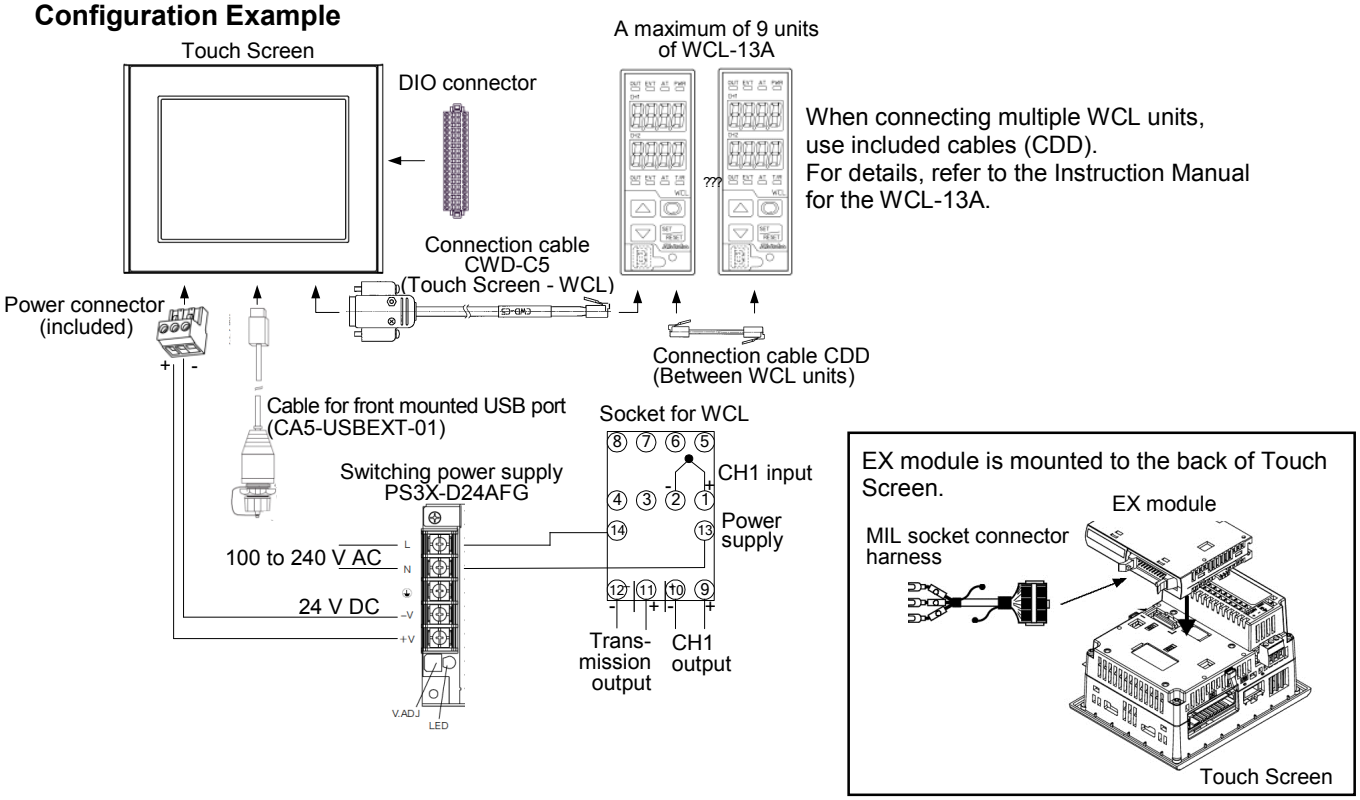
PCT-20	□	- □	- □	
Temperature control module Control output	1 to 9			Number of connected WCL-13A units
		R		Relay contact output (WCL-13A-RA/MM PCT)
		S		Non-contact voltage output (WCL-13A-SA/MM PCT)
		A		Direct current output (WCL-13A-AA/MM PCT)
Temperature control module Socket			1	For Y-type terminals only; Finger-safe (ASK-001-1)
			2	For Y-type and ring terminals (ASK-002-1)

Contents of Package

Model		Quantity
Touch Screen	LT3300-S1-D24-K	1
Temperature control module (*1)	WCL-13A-RA/MM PCT	1 to 9 (*2)
	WCL-13A-SA/MM PCT	
	WCL-13A-AA/MM PCT	
Connection cable (Between Touch Screen - WCL-13A)	CWD-C5	1
Connection cable (Between WCL-13As)	CDD	(*3)
Switching power supply 24 V DC	PS3X-D24AFG	1
Cable for front mounted USB port	CA5-USBEXT-01	1
EX module	EXM-DDO16UK	1
MIL socket connector harness	HIFS-SY-SB-20-5	1
USB memory stick	U3C-HP16G	1
Socket (*1)	ASK-001-1	(*3)
	ASK-002-1	

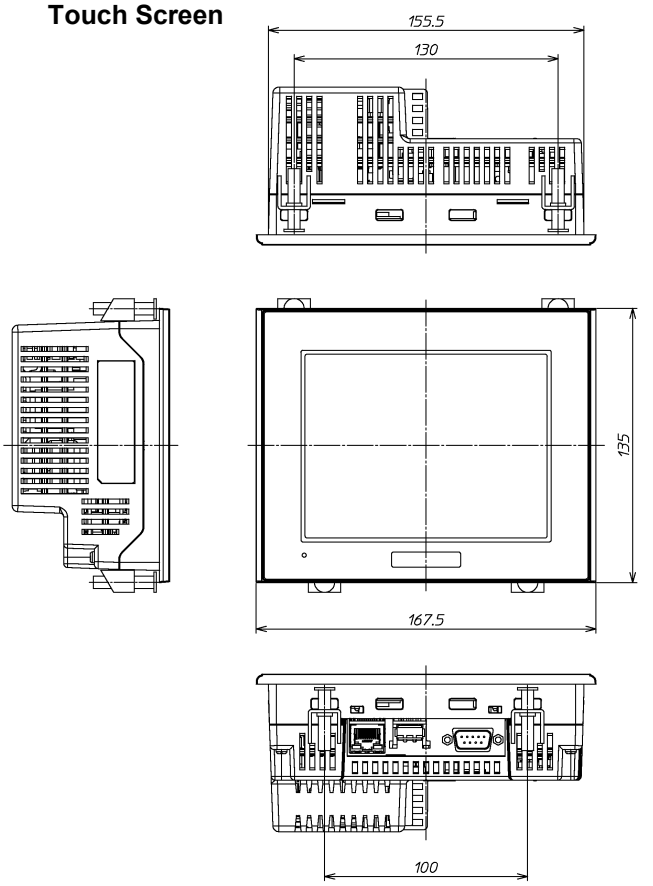
(*1) Specify one when ordering. When WCL units are connected, their specifications should be the same.
(*2) For Instrument Number setting for the WCL-13A, start from 1 (one) and progress chronologically.
(*3) When multiple WCL units are ordered, corresponding amount of cables and sockets are included.

Configuration Example



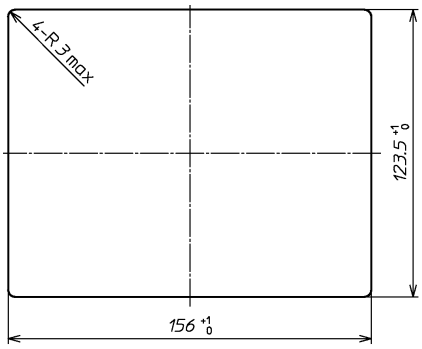
2. External Dimensions (Scale: mm)

Touch Screen

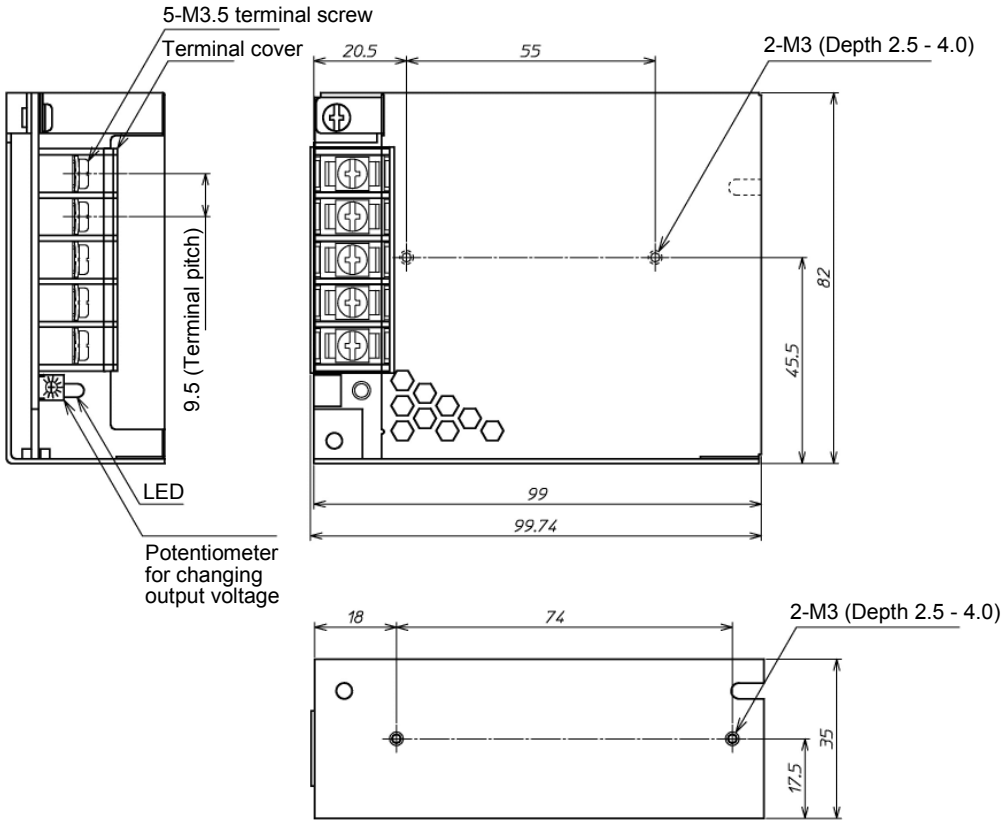


Panel Cutout

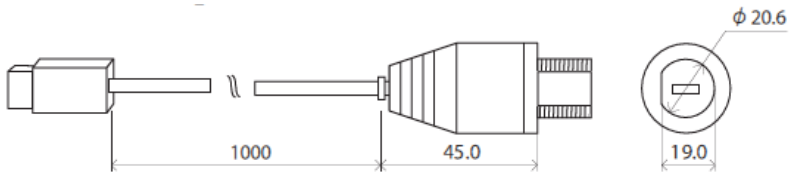
Panel thickness: 1.6 to 5.0 mm



Switching Power Supply



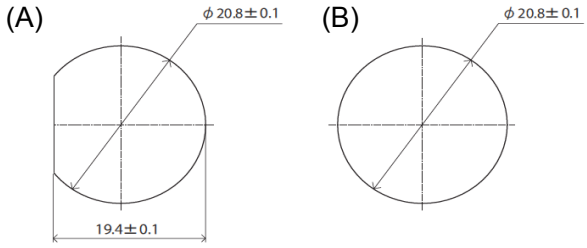
Cable for Front Mounted USB Port



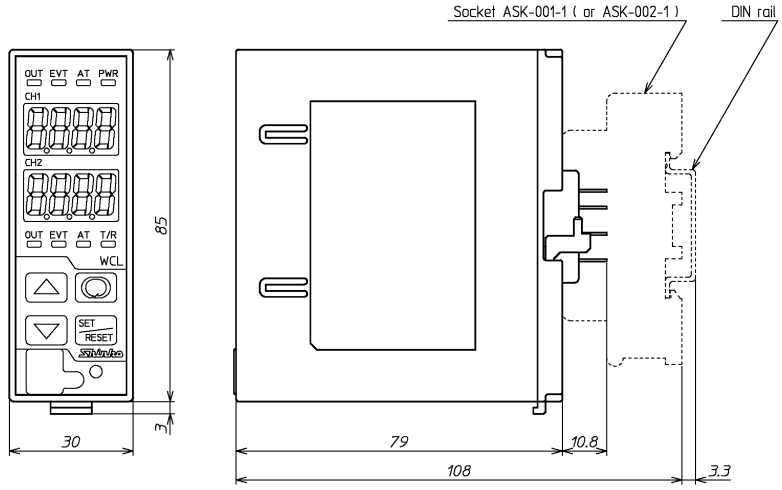
Panel Cutout

Panel cutout (A) is recommended.

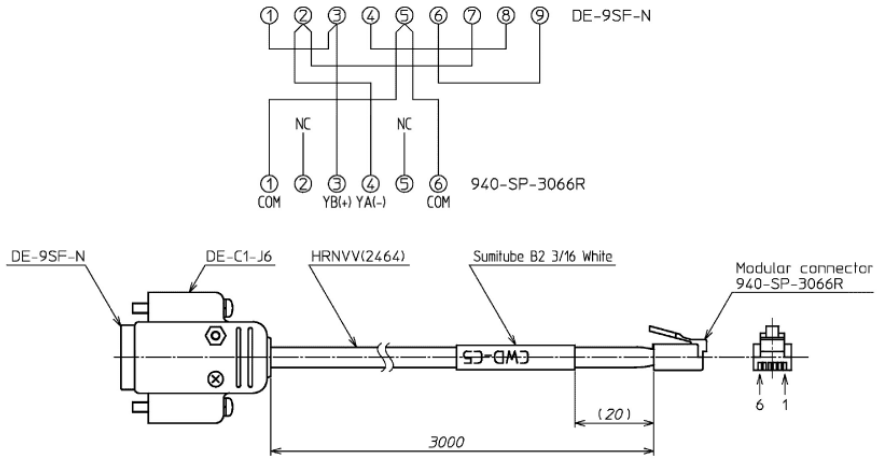
Panel cutout (B) can be used, however, mounting may become loose, causing drip-proof rating to become invalid.



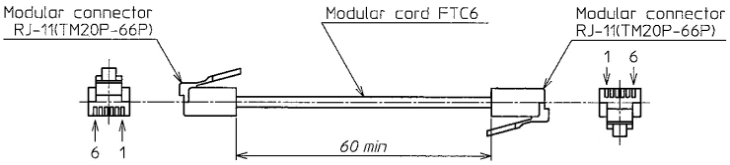
Temperature Control Module WCL-13A-□A/MM PCT



Connection Cable CWD-C5 (Between Touch Screen - WCL-13A)



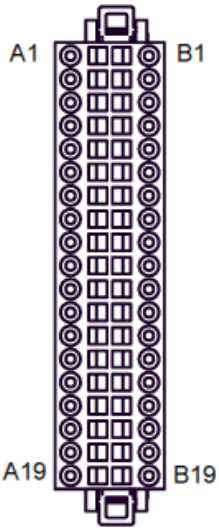
Connection Cable CDD (Between WCL-13A - WCL-13A)



3. Wiring

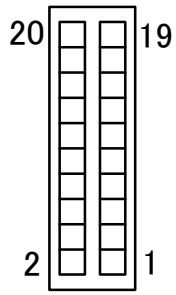
Digital Electronics Corp. Proface Touch Screen LT3300

DIO Connector

Pin Connection	Pin No.	Signal Name		Pin No.	Signal Name	
	A1	IN1	BCD 10^0-2	B1	IN0	BCD 10^0-1
	A2	IN3	BCD 10^0-8	B2	IN2	BCD 10^0-4
	A3	IN5	BCD 10^1-2	B3	IN4	BCD 10^1-1
	A4	IN7	BCD 10^1-8	B4	IN6	BCD 10^1-4
	A5	IN9	STOP	B5	IN8	RUN/HOLD(*)
	A6	IN11	FAST	B6	IN10	ADV
	A7	IN13		B7	IN12	
	A8	IN15		B8	IN14	
	A9	NC		B9	COM	
	A10	Sink output type: NC		B10	Sink output type: +24 V	
	A11	Sink output type: 0 V		B11	Sink output type: 0 V	
	A12	OUT1	AL1	B12	OUT0	P.END
	A13	OUT3	AL3	B13	OUT2	AL2
	A14	OUT5	TS1	B14	OUT4	AL4
	A15	OUT7	TS3	B15	OUT6	TS2
	A16	OUT9	TS5	B16	OUT8	TS4
	A17	OUT11	TS7	B17	OUT10	TS6
	A18	OUT13	TS9	B18	OUT12	TS8
	A19	OUT15	TS11	B19	OUT14	TS10

(*) Contact CLOSED: RUN, Contact OPEN during RUN: HOLD

EX Module Connector

Pin Connection	Pin No.	Signal Name		Pin No.	Signal Name	
	20	Q0	TS12	19	Q8	TS20
	18	Q1	TS13	17	Q9	
	16	Q2	TS14	15	Q10	
	14	Q3	TS15	13	Q11	
	12	Q4	TS16	11	Q12	
	10	Q5	TS17	9	Q13	
	8	Q6	TS18	7	Q14	
	6	Q7	TS19	5	Q15	
	4	COM(-)		3	COM(-)	
	2	+V		1	+V	

For details, refer to [LT3300 Series Hardware Manual].

4. Communication Setting

Instrument Numbers should be individually set from the second WCL-13A and all following units.
Set the Instrument Numbers from 2 (two) via the keypad, progressing chronologically.
For detailed usage and options, refer to the Instruction Manual for the WCL-13A.
(See Section 7. Key Operation Flowchart.)
Instruction Manual for the WCL-13A can be downloaded from Shinko Website as follows.
http://www.shinko-technos.co.jp/e/ → Support & Downloads → Downloads → Manuals

Character (*)	Name, Function, Setting Range	Factory Default
cnno	**Instrument number**	1
	• When using more than one WCL-13A in Serial communication, sets the instrument number to each unit individually. • Available when Serial communication (C5 option) is specified when ordering. • Setting range: 0 to 95	

(*) Characters are indicated on the CH1 PV/SV display of the WCL-13A.

5. Creating Pattern Data

5.1 USB Memory Stick

The following files are included in the USB memory stick provided.

CSV.Convert_V2.01.exe	(Application software)
PARA.csv	(Pattern data file)
Data folder	(Data folder)
SAMP01 folder	(Logging folder)
ja folder	(Folder for Japanese OS)
ja-JP folder	(Folder for Japanese OS)

- In the Data folder, the following files are included.

B_DATA.bin	Each block data file of PID, Wait, Alarm and Time signal
PTN001.bin to PTN100.bin	Data file of 100 steps per pattern

[Note] Never change the file name of B_DATA.bin, and PTN001.bin to PTN100.bin. The Touch Screen will not be able to recognize them.

- Logging data will be saved in the SAMP01 folder.
- Csv.Convert_V2.01.resources.dll (File for Japanese OS) is included in the ja folder.
- Csv.Convert_V2.01.resources.dll (File for Japanese OS) is included in the ja-JP folder.

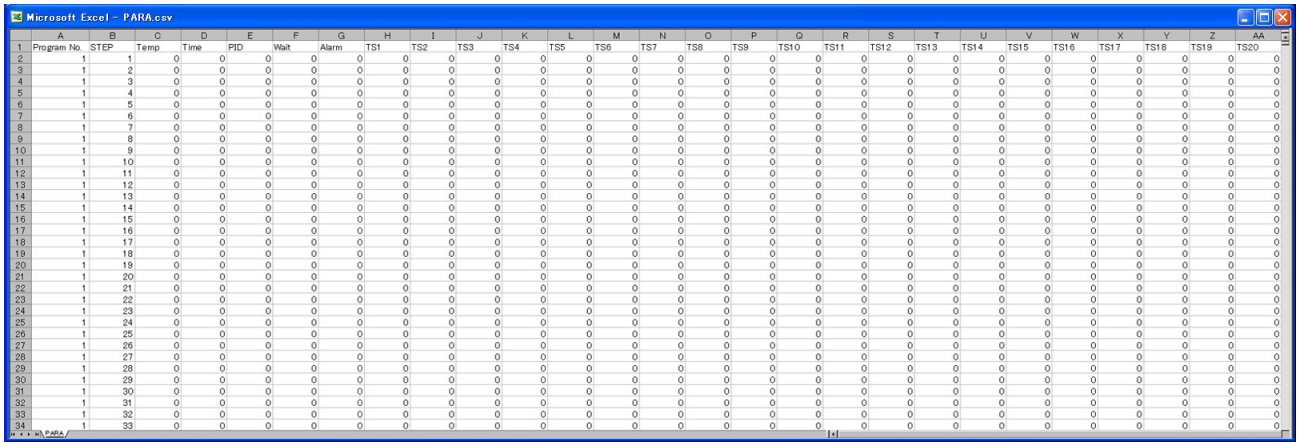
5.2 Editing CSV File

In the PARA.csv file, a maximum of 100 patterns 100 steps/pattern of data (temperature, time and each block number) can be created.

Factory default: 0 (for all)

Edit the PARA.csv file using the commercially available spreadsheet software.

[Note] When creating data, enter English letters and numbers.



Program No.:	Pattern number (Editing impossible)	
STEP:	Step number (Editing impossible)	
Temp:	Temperature	Setting range: Depends on the input type of the WCL-13A (p.17)
Time:	Time	Setting range: 0 to 9959 (0 to 99 hr 59 min)
PID:	PID block number	Setting range: 0 to 9
Wait:	Wait block number	Setting range: 0 to 9
Alarm:	Alarm block number	Setting range: 0 to 9
TS1 to TS20:	Time signal 1 to 20	Time signal block setting range: 0 to 15 (Hexadecimal: 0 to F)

- **Editing Pattern Data**

  Create pattern data by editing the PARA.csv file using the commercially available spreadsheet software.

  When creating data, enter English letters and numbers.

  For numbers with a decimal point, ignore the decimal point when setting temperature.

  (e.g.) For setting 100.0 ℃: Enter 1000. (Decimal point is automatically inserted.)

  For setting time of 1 hour 20 minutes: Enter 120.

  For time signal block numbers 10 to 15, use hexadecimal figures A to F.

  (e.g.) Temperature rises to 100 ℃ for 30 minutes, and is maintained at 100℃ for 60 minutes

Pattern No.	STEP No.	Temper-ature	Time	PID Block No.	Wait Block No.	Alarm Block No.	Time Signal			
							1	2	3	4
1	1	1000	30	1	1	1	1	10	11	0
1	2	1000	60	2	0	2	1	2	15	0

Contents of CSV file

Microsoft Excel - PARA.csv

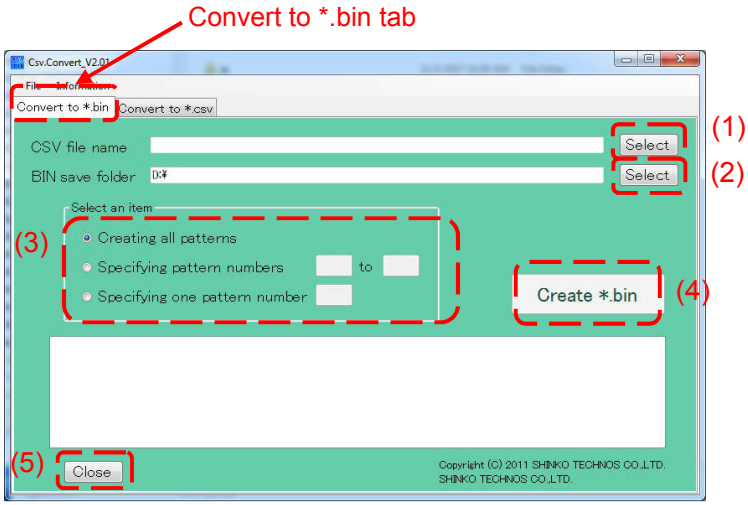
	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Program No.	STEP	Temp	Time	PID	Wait	Alarm	TS1	TS2	TS3	TS4	TS5	TS6
2	1	1	1000	30	1	1	1	1	A	B	0	0	
3	1	2	1000	60	2	0	2	1	2	F	0	0	
4	1	3	0	0	0	0	0	0	0	0	0	0	
5	1	4	0	0	0	0	0	0	0	0	0	0	
6	1	5	0	0	0	0	0	0	0	0	0	0	

[Note] For the PARA.csv, its file name can be changed.
Always back up data.
Shinko Technos Co., Ltd. is not responsible for loss of data.

5.3 Application Software

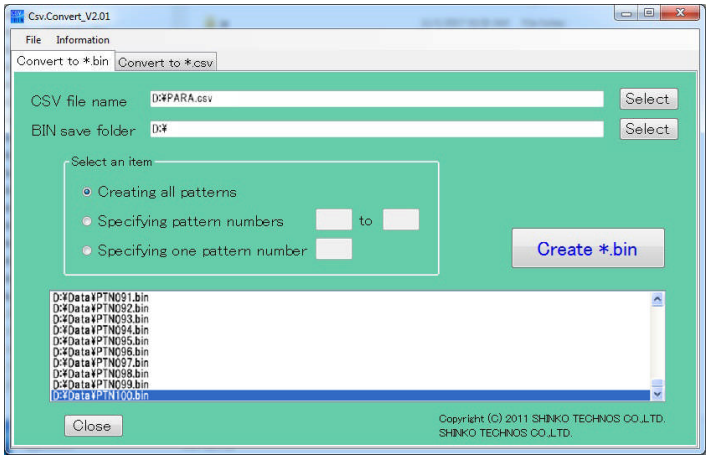
5.3.1 Converting to the Binary File

Load the CSV file edited, then convert it to the binary file.
Touch Screen cannot recognize the CSV file, so be sure to convert it to the binary file.
Start the application by double-clicking CSV.Convert_V2.01.exe,
then select [Convert to *.bin] tab.



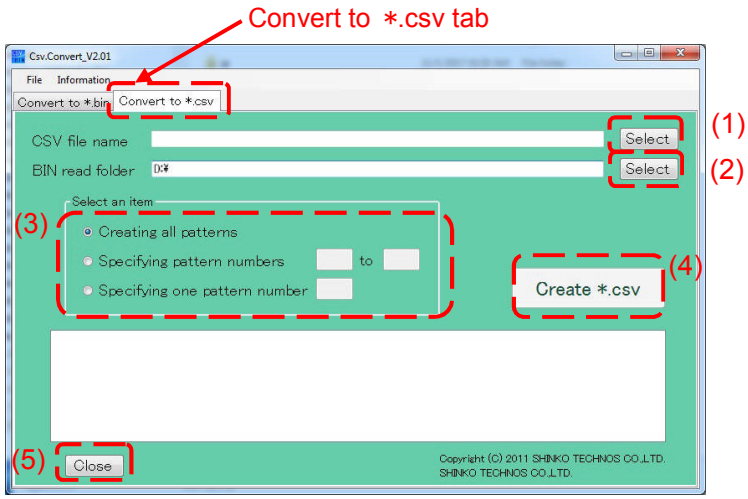
No.	Item	Description	
(1)	CSV file name	Selects the CSV file.	
(2)	BIN save folder	Selects a location for the BIN file folder.	
(3)	Select an item	Creating all patterns	Creates data for 1 to 100 patterns.
		Specifying pattern numbers	Creates data for the specified pattern number range.
		Specifying one pattern number	Creates data for one specified pattern number.
(4)	Create *.bin	Creates the binary files.	
(5)	Close	Closes the application.	

Display example after the file is converted



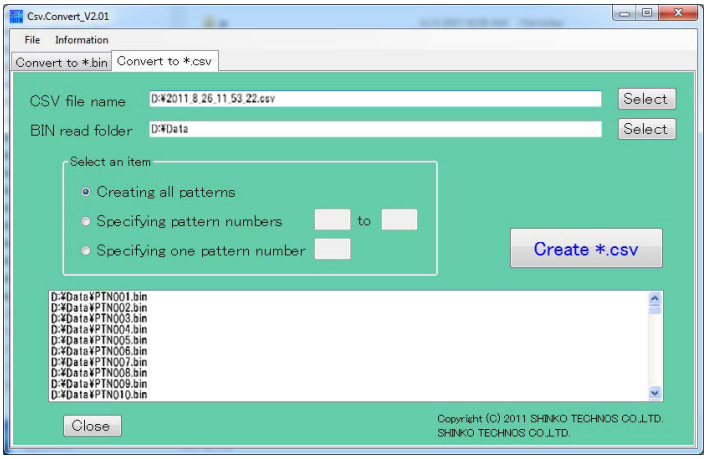
5.3.2 Converting to the CSV File

Binary files saved on the Touch Screen can be converted to the CSV file.
Start the application by double-clicking CSV.Convert_V2.01.exe,
then select [Convert to *.csv] tab.



No.	Item	Description	
(1)	CSV file name	Selects the CSV file.	
(2)	BIN read folder	The binary files in the indicated folder are loaded.	
(3)	Select an item	Creating all patterns	Creates data for 1 to 100 patterns.
		Specifying pattern numbers	Creates data for the specified pattern number range.
		Specifying one pattern number	Creates data for one specified pattern number.
(4)	Create *.csv	Creates the CSV file.	
(5)	Close	Closes the application.	

Display example after the file is converted

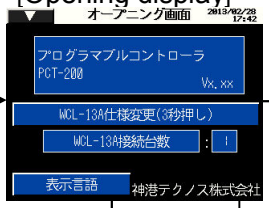


6. Touch Screen Monitoring Display

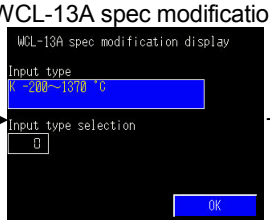
6.1 Display Configuration

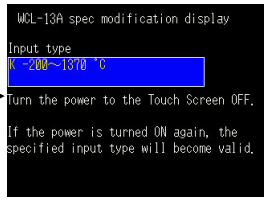
Touch Screen monitoring displays are shown below.
Opening display is indicated only when the power is turned ON.
After power-on, make a selection in the following order.
(1) Interface language, (2) WCL-13A spec modification, (3) Various settings from the menu button
↓ (An arrow) means that the display moves to the next page.

[Opening display]



[WCL-13A spec modification]





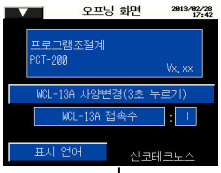
Turn the power OFF, then ON again.

Moves to the following displays by pressing the menu button ▼ .

See P.16.
[Interface language]
English

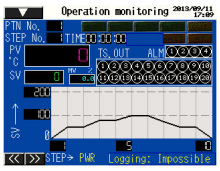
[Interface language]
Chinese

[Interface language]
Korean

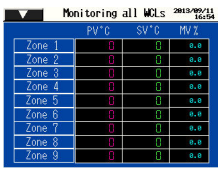


See P.18.
[Operation]

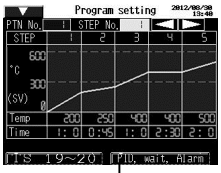
See P.19.
[Operation monitoring]



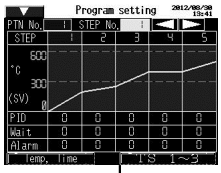
See P.27.
[Monitoring all WCLs]



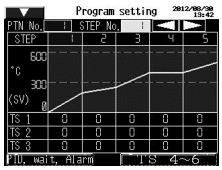
See P.20.
[Program setting]
Temperature, Time



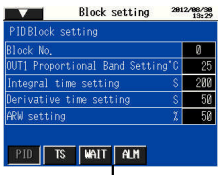
[Program setting]
PID, Wait, Alarm



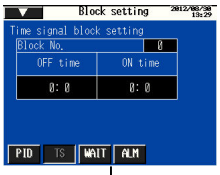
[Program setting]
Time signal



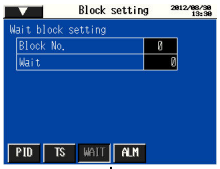
See P.23.
[Block setting]
PID



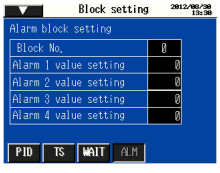
[Block setting]
Time signal



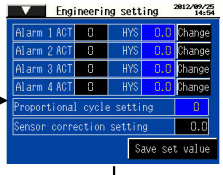
[Block setting]
Wait



[Block setting]
Alarm



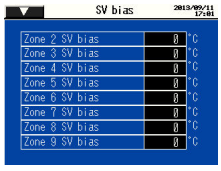
See P.25.
[Engineering setting]



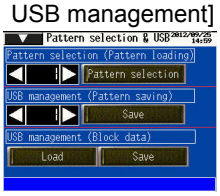
[Alarm 1 (type, hys) setting]
The same applies to Alarms 2 to 4

See P.26.
[Setting lock selection, Selection after restoration]

See P.27.
[SV bias setting]



See P.27.
[Pattern selection & USB management]



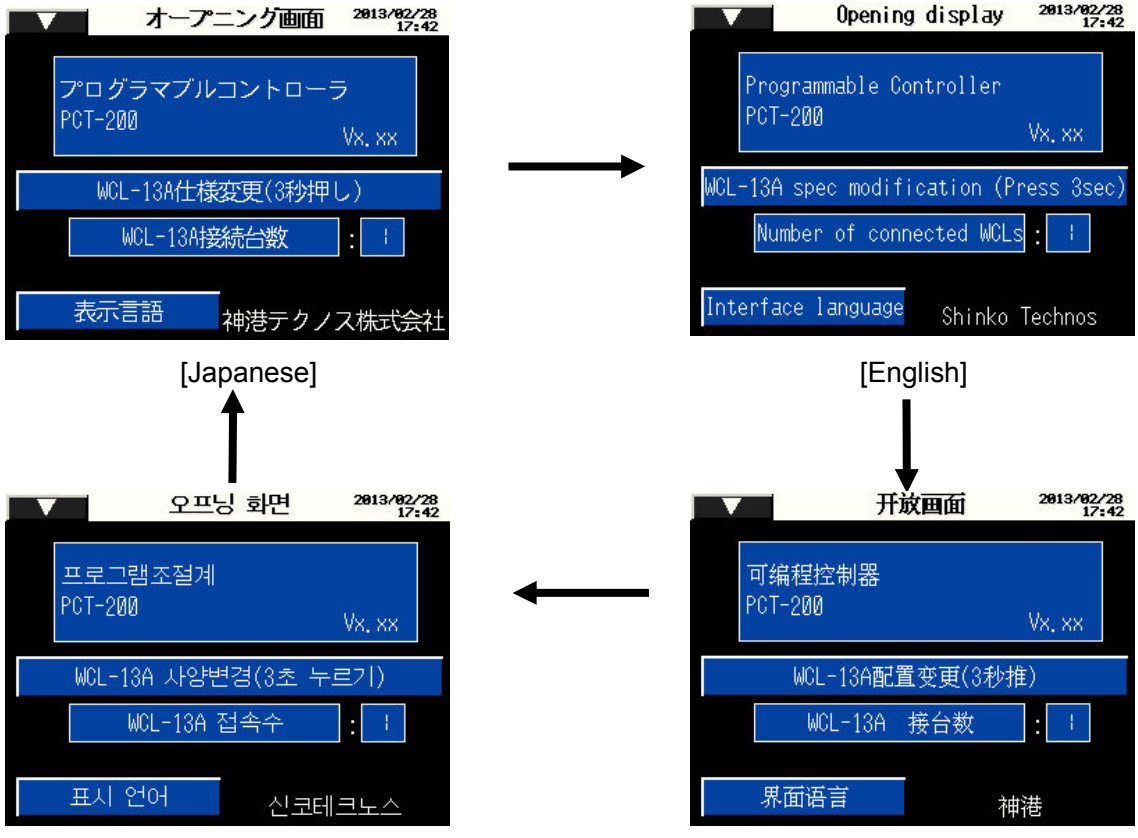
6.2 Opening Display

Opening display is indicated only when the power is turned ON.

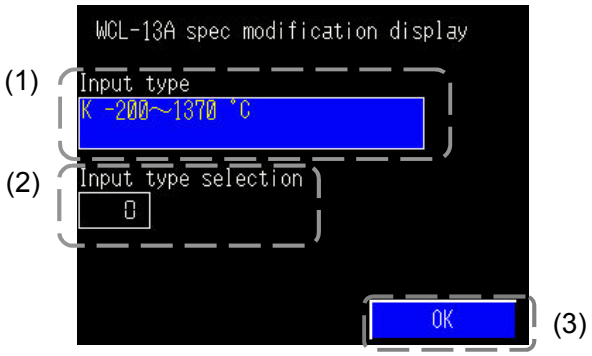
No	Item	Description
(1)	Menu button	Opens the menu window.
(2)	WCL-13A spec modification (press 3 sec)	Changes the input of the WCL-13A.
(3)	Interface language	Selects a language to be indicated on the display.
(4)	Number of connected WCL-13A units	Sets the number of connected WCL-13A units.

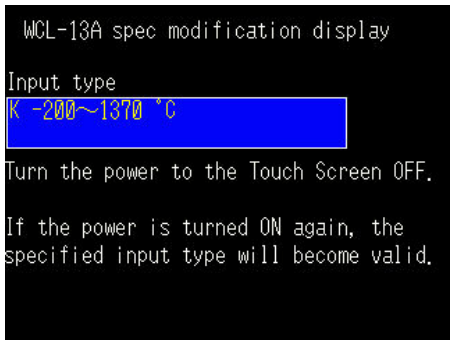
6.2.1 Interface Language

Japanese, English, Chinese, Korean languages are available, and they can be switched by pressing the [Interface language (表示言語)] button.



6.2.2 WCL-13A Spec Modification Display



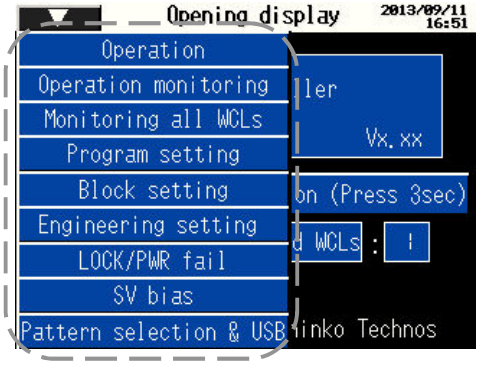


No	Item	Description
(1)	Input type	Indicates current input type of the WCL-13A.
(2)	Input type selection	Changes the input type of the WCL-13A. Enter an input number.
(3)	OK	Press [OK] after the input type selection is finished. **[Note]** If an input type is changed, turn the power to the Touch Screen main unit OFF, then ON again. The changed input type will then become valid.

Input No.	Input Type		Input No.	Input Type	
0	K	-200 to 1370 ℃	18	R	0 to 3200 ℉
1	K	-199.9 to 400.0 ℃	19	S	0 to 3200 ℉
2	J	-200 to 1000 ℃	20	B	0 to 3300 ℉
3	R	0 to 1760 ℃	21	E	-320 to 1500 ℉
4	S	0 to 1760 ℃	22	T	-199.9 to 750.0 ℉
5	B	0 to 1820 ℃	23	N	-320 to 2300 ℉
6	E	-200 to 800 ℃	24	PL-Ⅱ	0 to 2500 ℉
7	T	-199.9 to 400.0 ℃	25	C	0 to 4200 ℉
8	N	-200 to 1300 ℃	26	Pt100	-199.9 to 999.9 ℉
9	PL-Ⅱ	0 to 1390 ℃	27	JPt100	-199.9 to 900.0 ℉
10	C	0 to 2315 ℃	28	Pt100	-300 to 1500 ℉
11	Pt100	-199.9 to 850.0 ℃	29	JPt100	-300 to 900 ℉
12	JPt100	-199.9 to 500.0 ℃	30	4 to 20mA DC	-1999 to 9999
13	Pt100	-200 to 850℃	31	0 to 20mA DC	-1999 to 9999
14	JPt100	-200 to 500 ℃	32	0 to 1V DC	-1999 to 9999
15	K	-320 to 2500 ℉	33	0 to 5V DC	-1999 to 9999
16	K	-199.9 to 750.0 ℉	34	1 to 5V DC	-1999 to 9999
17	J	-320 to 1800 ℉	35	0 to 10V DC	-1999 to 9999

6.2.3 Menu Window

By touching the Menu button, the menu window appears as follows.



6.3 Operation

No.	Item	Description
(1)	Operation buttons	Controller is operated by pressing buttons.

Item	Description
CONTINUE	Lights when RUN is pressed after power restoration.
Logging	Selects logging Start/Stop.
RUN	Starts program.
STOP	Stops currently performing program.
PVst/SVst	Selects PV start/SV start.
ADV	During program control, interrupts performing step, and proceeds to the next step.
FAST	During program control, speeds up step time progression 60 times faster than usual.
HOLD	During program control, pauses time progression. By touching again, HOLD is released.

(2)	Status Monitoring	Shows the following status of programmable controller.

Item	Description
Pattern No.	Indicates currently selected pattern No.
STEP No.	Indicates currently performing step No.
PV	Indicates current PV.
SV	Indicates current SV.
R.TIME	Indicates Remaining Time of currently performing step.
TS.OUT	Indicates Time Signal Output status.
ALM	Indicates Alarm output status.

(3)	AT buttons	Performs/Cancels AT (auto-tuning).
(4)	REPEAT	Use this button to perform program control repeatedly. No repetition occurs when set to 0 (zero). Number of repetitions: 0 to 99
(5)	Menu buttons	Opens the menu window.

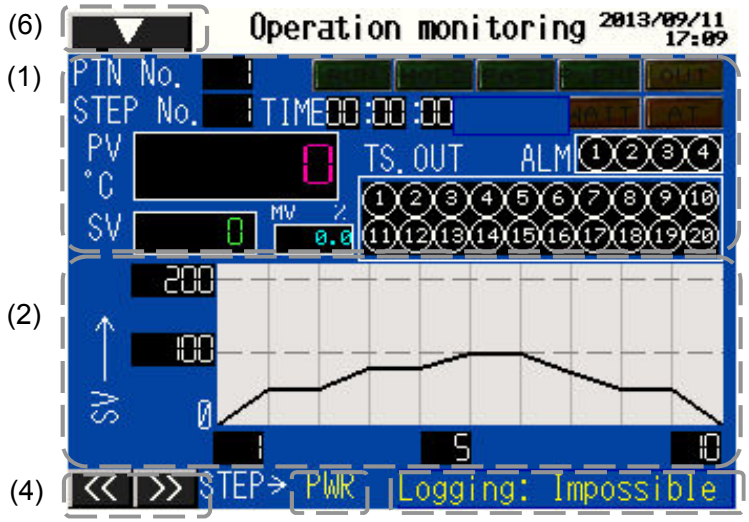
[Note] The status of program control (during RUN) is the same as Lock status. See p.26.

PV Start/SV Start Selection

PV start	When program control starts, SV and step time are advanced to the PV, then program control starts.
SV start	When program control starts, control starts from 0 (zero) of SV.

[Note] Selection of PV start/SV start will be maintained even if power is turned OFF.

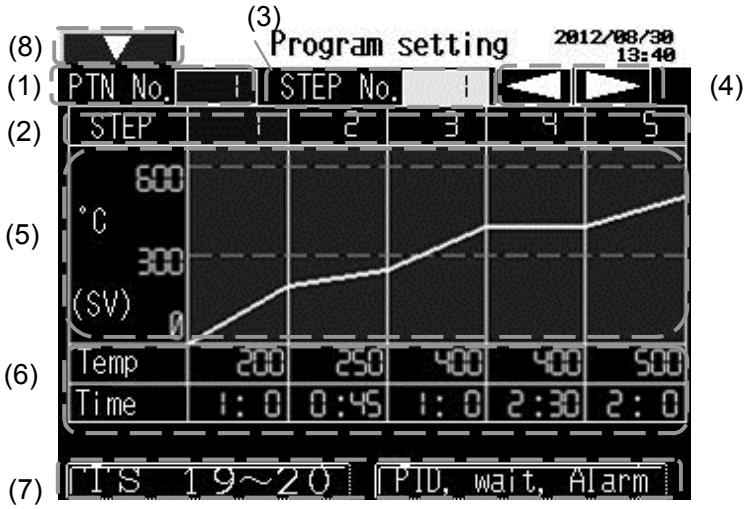
6.4 Operation Monitoring



No.	Item	Description
(1)	Status monitoring	Indicates the following status of programmable controller. **Item** / **Description** PTN No. — Indicates currently performing pattern No. STEP No. — Indicates currently performing step No. PV — Indicates current PV. SV — Indicates current SV. MV — Indicates current MV. TIME — Indicates remaining time of currently performing step. TS.OUT — Indicates time signal output status. ALM — Indicates alarm output status.
(2)	Pattern graph	Pattern temperatures are plotted in graph. During automatic operation, currently performing step is indicated by flashing grid lines for that step.
(3)	Logging status	Indicates [Possible] while logging, and [Impossible] while logging is stopped.
(4)	STEP display arrows	Selects steps to be displayed.
(5)	PWR	Flashes when power is restored.
(6)	Menu button	Opens the menu window.

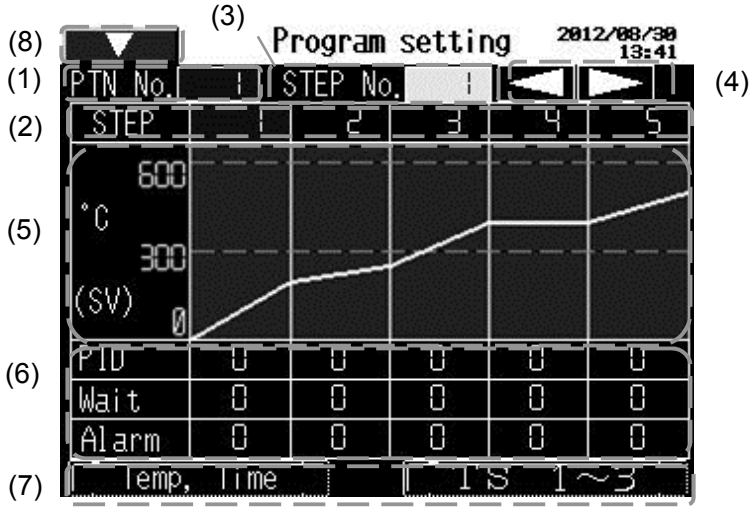
6.5 Program Setting

6.5.1 Temperature, Time Settings



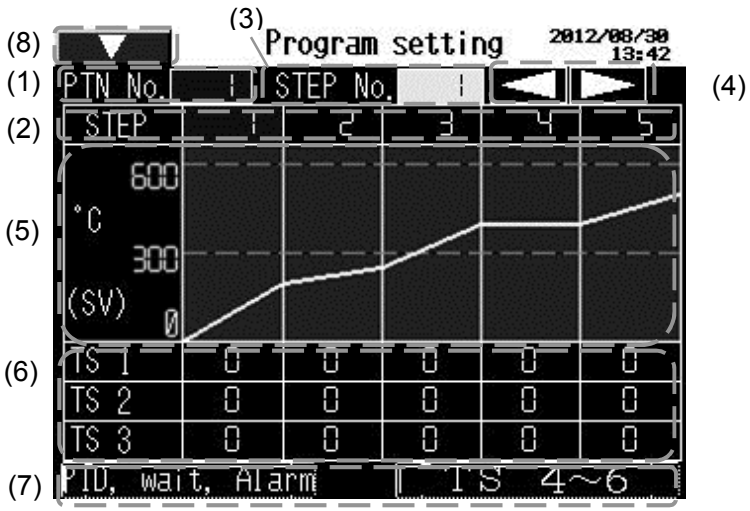
No.	Item	Description
(1)	PTN No.	Indicates pattern No.
(2)	STEP	Indicates step No.
(3)	STEP No.	Sets step No.
(4)	STEP display arrows	Selects steps to be displayed.
(5)	Pattern graph	Indicates a pattern in accordance with the SV.
(6)	Pattern setting 1	Sets temperature and time to each step. [Setting range] • Temperature: Depends on the scaling setting of the WCL-13A. • Time: 0 hr 0 min to 99 hr 59 min
(7)	Pattern setting items selection	Selects pattern setting items.
(8)	Menu button	Opens the menu window.

6.5.2 PID, Wait, Alarm Settings



No.	Item	Description
(1)	PTN No.	Indicates pattern No.
(2)	STEP	Indicates step No.
(3)	STEP No.	Sets step No.
(4)	STEP display arrows	Selects steps to be displayed.
(5)	Pattern graph	Indicates a pattern in accordance with the SV.
(6)	Pattern setting 2	Sets block No. (PID, Wait, Alarm) to each step. [Setting range] • PID block: 0 to 9 • Wait block: 0 to 9 • Alarm block: 0 to 9
(7)	Pattern setting items selection	Selects pattern setting items.
(8)	Menu button	Opens the menu window.

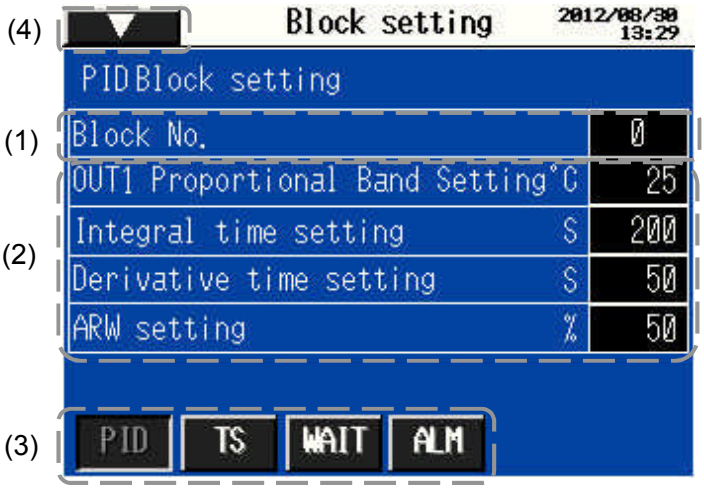
6.5.3 Time Signal Setting



No.	Item	Description
(1)	PTN No.	Indicates pattern No.
(2)	STEP	Indicates step No.
(3)	STEP No.	Sets step No.
(4)	STEP display arrows	Selects steps to be displayed.
(5)	Pattern graph	Plots a pattern in accordance with the SV.
(6)	Pattern setting 3	Sets Time signal block No. to each step. [Setting range] • Time signal block: 0 to F Time signal number can be set from 1 to 20 (TS1 to TS20).
(7)	Pattern setting items selection	Selects pattern setting items.
(8)	Menu button	Opens the menu window.

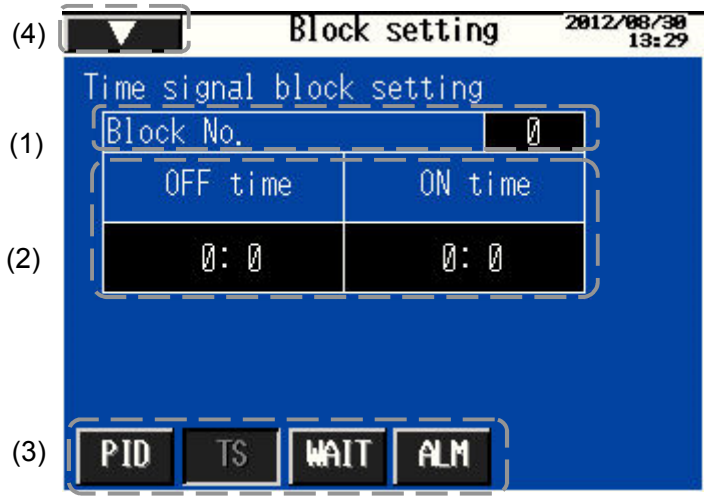
6.6 Block Setting

6.6.1 PID Block Setting



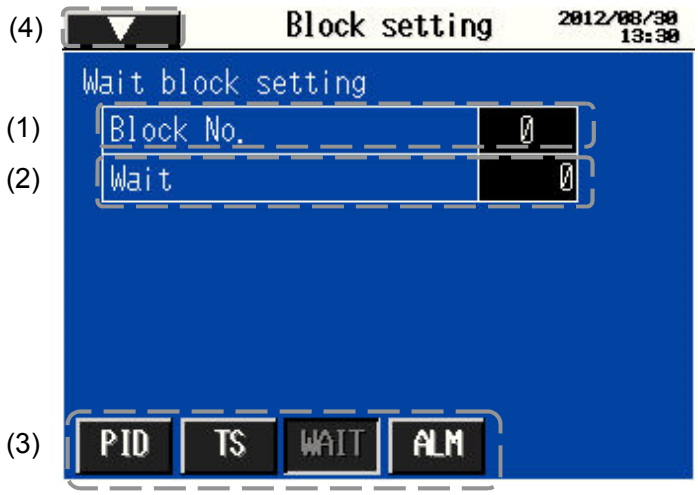
No.	Item	Description
(1)	Block No.	Sets PID block No.
(2)	PID parameters	Sets PID parameters. [Setting range] Proportional band: 0 to 9999 (Decimal point depends on the input range.) Integral time: 0 to 1000 Derivative time: 0 to 300 ARW: 0 to 100
(3)	Block selection	Selects block setting items.
(4)	Menu button	Opens the menu window.

6.6.2 Time Signal Block Setting



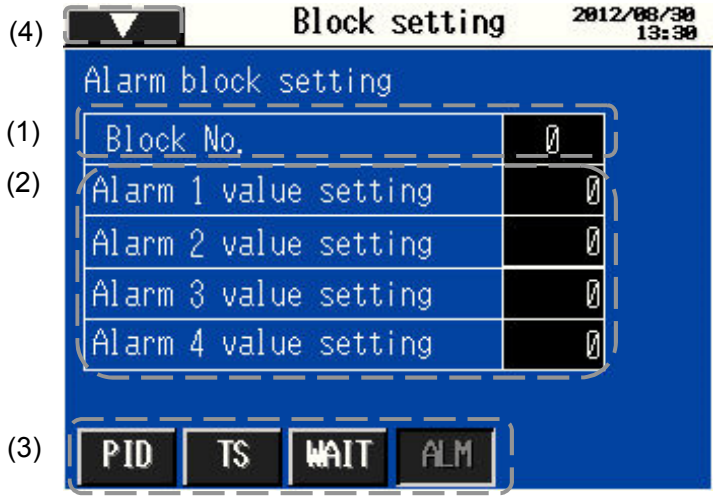
No.	Item	Description
(1)	Block No.	Sets Time signal block No.
(2)	Time signal block parameters	Sets time signal parameters. [Setting range] ON time: 0 hr 0 min to 99 hr 59 min OFF time: 0 hr 0 min to 99 hr 59 min
(3)	Block selection	Selects block setting items.
(4)	Menu button	Opens the menu window.

6.6.3 Wait Block Setting



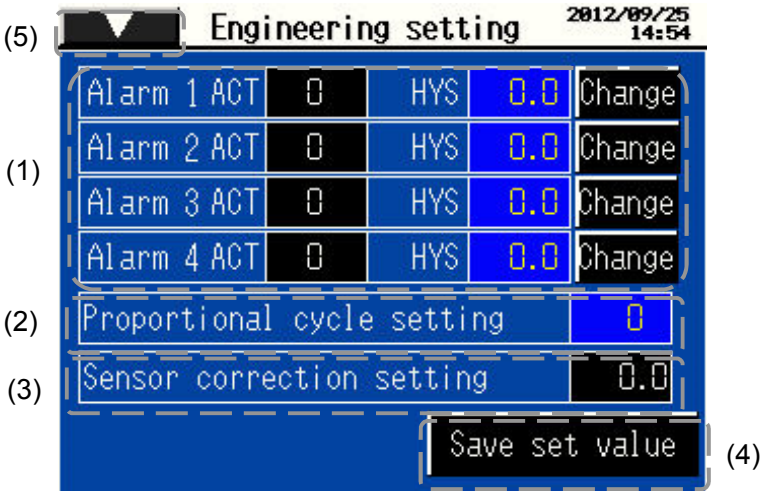
No.	Item	Description
(1)	Block No.	Sets Wait block No.
(2)	Wait block parameter	Sets the Wait parameter. [Setting range] Wait: 0 to 1000 (Decimal point depends on the input range.)
(3)	Block selection	Selects block setting items.
(4)	Menu button	Opens the menu window.

6.6.4 Alarm Block Setting



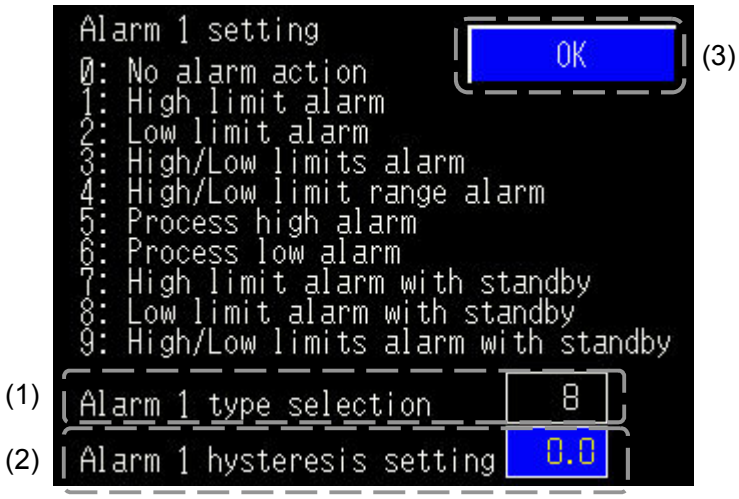
No.	Item	Description
(1)	Block No.	Sets Alarm block No.
(2)	Alarm block parameters	Sets alarm parameters. [Setting range] Alarm 1 value: Depends on the input range and Alarm 1 type. Alarm 2 value: Depends on the input range and Alarm 2 type. Alarm 3 value: Depends on the input range and Alarm 3 type. Alarm 4 value: Depends on the input range and Alarm 4 type.
(3)	Block selection	Selects block setting items.
(4)	Menu button	Opens the menu window.

6.7 Engineering Setting



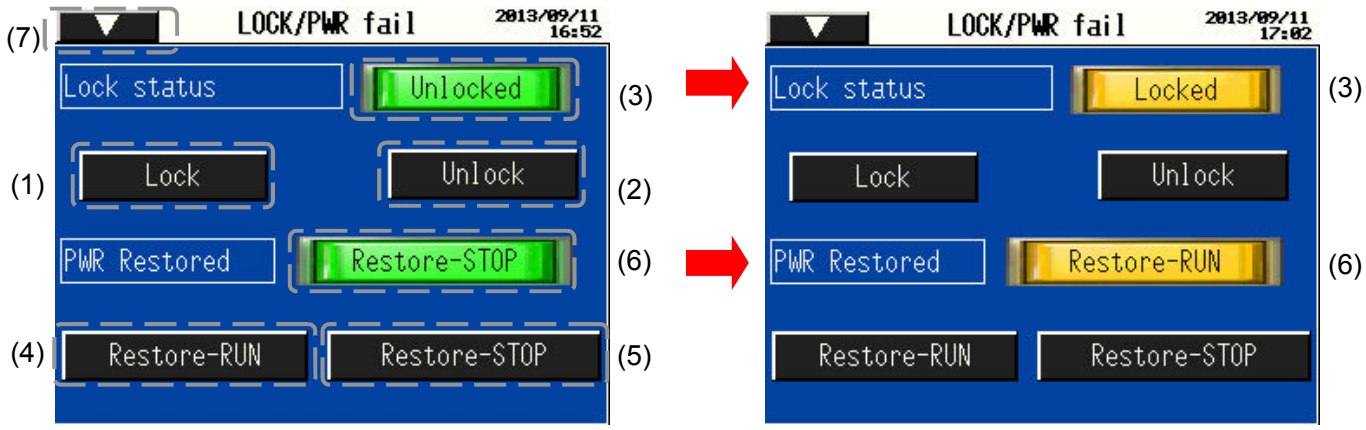
No.	Item	Description
(1)	Alarm type and hysteresis setting	Indicates each alarm type and hysteresis setting display.
(2)	Proportional cycle setting	Sets proportional cycle. Setting range: 1 to 120 seconds
(3)	Sensor correction setting	Sets the sensor correction value. Setting range: -100.0 to 100.0
(4)	Save set value	If this key is pressed after values (alarm type, alarm hysteresis, proportional cycle, sensor correction value) are changed, they will be written in the non-volatile memory of the WCL-13A. If this key is not pressed, those values will be discarded when power to the WCL-13A is turned OFF.
(5)	Menu button	Opens the menu window.

Alarm 1 setting display (The same applies to Alarm 2, 3, 4.)



No.	Item	Description
(1)	Alarm type selection	Selects an alarm type. Setting range: Alarm types 0 to 9
(2)	Alarm hysteresis setting	Sets the alarm hysteresis. Setting range: 0.1 to 100.0
(3)	OK	Returns to the Engineering display.

6.8 Setting Lock Selection, Selection after Power Restoration



When [Lock] is pressed.
When RUN after power restoration is selected.

No.	Item	Description
(1)	Lock	Locks the set values (program setting, block setting, proportional cycle, sensor correction) to prevent change.
(2)	Unlock	Releases the lock.
(3)	Unlocked/Locked indicator	Indicates current Unlock/Lock status.
(4)	Restore-RUN	The status after power restoration is RUN.
(5)	Restore-STOP	The status after power restoration is STOP.
(6)	Restore-RUN/ Restore-STOP indicator	Indicates current status (RUN or STOP) after power restoration.
(7)	Menu button	Opens the menu window.

[Note] The status of program control (during RUN) is the same as Lock status.

6.9 Zone Control Function

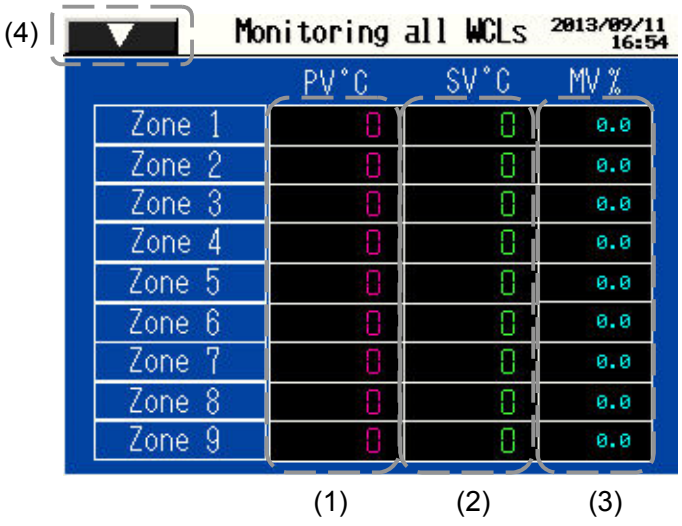
6.9.1 SV Bias Setting

Sets the SV bias value for Zones 2 to 9.
For Zones 2 to 9, each SV bias value is added to Zone 1 SV, which becomes the SV.

For Zone 1 (instrument No. 1), set the SV.
From Zones 2 to 9, set the SV Bias value (SV adds the SV of Zone 1 to the SV Bias value.)

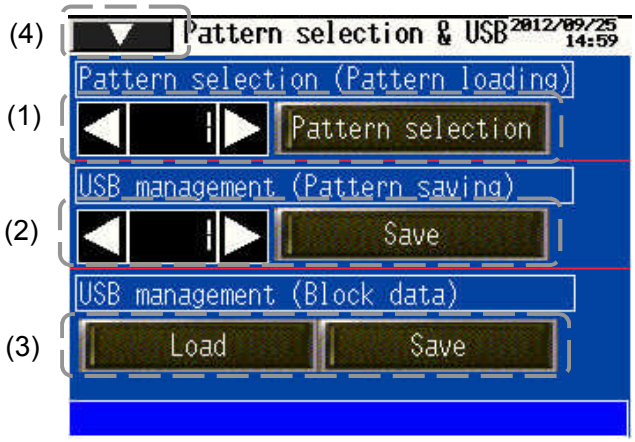
No.	Item	Description
(1)	SV bias value	Sets SV bias value for the connected WCL-13A units. Setting range: -500 to 500 (Decimal point depends on the input range.)
(2)	Menu button	Opens the menu window.

6.9.2 Monitoring all WCLs



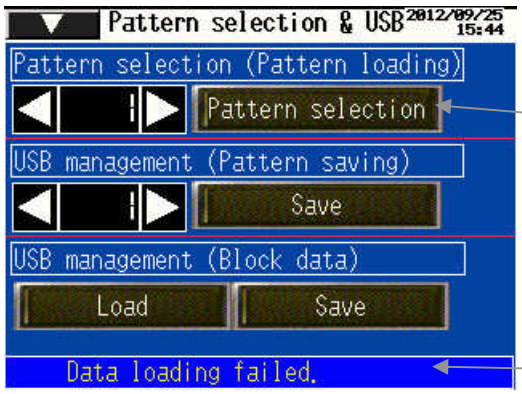
No.	Item	Description
(1)	PV	Indicates PV of each zone.
(2)	SV	For Zone 1, indicates SV. For Zones 2 to 9, indicates SV bias value. (See Section 6.9.1 SV bias setting.)
(3)	MV	Indicates MV of each zone.
(4)	Menu button	Opens the menu window.

6.10 Pattern Selection and USB Management



No.	Item	Description
(1)	Pattern selection (Pattern loading)	Loads the selected pattern data from the USB memory stick. Select the pattern number with the UP or DOWN Key, or enter the pattern number directly by pressing the number. (If the pattern number is pressed, the onscreen numerical keyboard appears.) Program control is performed for the pattern number selected here. The pattern number cannot be changed while running.
(2)	USB management (Pattern saving)	Saves the selected pattern data in the specified pattern number on the USB memory stick. Select the pattern number with the UP or DOWN key, or enter the pattern number directly by pressing the number. (If the pattern number is pressed, the onscreen numerical keyboard appears.) By changing the pattern number, data can be copied.
(3)	USB management (Block data)	Loads block data (PID, Wait, Alarm, Time signal) from the USB memory stick, or saves it on the USB memory stick.
(4)	Menu button	Opens the menu window.

[Note]



Buttons (Load, Save, Pattern selection) will be effective by pressing them twice.
Confirm the message after pressing the button once, then press the button again.

Error message will appear if data cannot be loaded.
Data may be non-existent.

- If a new pattern data is loaded, the pattern data selected on the Touch Screen will be erased. Save the pattern data selected on the Touch Screen if necessary. (If a set value is changed on the screen and is not saved on the USB memory stick, the data will be lost.)
- Data SAVE means that the binary data saved in the data folder will be updated. The CSV file cannot be saved via Touch Screen.

7. Logging Function

Using the sampling function of the LT3300, the registered data can be logged in a constant period. The logged data will be saved in the USB memory stick in the CSV file format.

Logging Conditions

Item	Description	Remarks
Data acquisition period	10 seconds	During automatic operation only
Timing to execute File SAVE	Every 3 hours When automatic operation is finished.	Only when logging Effective is selected.
Output file save destination	¥SAMP01¥	
Output file name	SAxxxxx.csv	A file is created when logging starts, and the file is saved (SA00001.csv) when logging stops. Every time logging stops, a new file with a serial number will be created. (The file number is entered at xxxxx section.) When power is turned ON, the file numbered 00001 will be used, and data will be saved in it. However, previous data will be retained and the new data will be added to it.

Output File Format

When PV, SV are 1.0 (with a decimal point).
Output status 0: OFF, 1: ON
TS item output status: Hexadecimal

Date	Time	PTN	STEP	PV	SV	ALM1	ALM2	ALM3	ALM4	TS1-16	TS17-20
2008/6/13	9:08:20	1	1	10	10	1	1	1	1	C000	000F
2008/6/13	9:08:30	1	1	10	10	1	1	1	1	C000	000F
2008/6/13	9:08:40	1	1	10	10	1	1	1	1	C000	000F
2008/6/13	9:08:50	1	1	10	10	1	1	1	1	C000	000F

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