VM7000A
Paperless Recorder

Operation Manual

Ohkura

.

WXPVM70mnA0001E
October, 2009(Rev.1)

Foreword

Thank you for purchasing our VM7000 Paperless Recorder.

- Please installs it, operates it and prepares it, after this manual is often read, and it understands enough.
  There is danger where the accident and the trouble occur when handling is mistaken.
- This specification of Paperless Recorder is subject to change without prior notice for product improvement.
- It is prohibited to remodeling this Paperless Recorder without our permission.
  It doesn't assume the responsibility about the accident caused by having remodeled it without our permission.
- Please keep this manual if you actually use the Paperless Recorder.
- After reading this manual, keep it carefully by the instrument.
- Please consider this manual to be sure to extend to the final user.

Manufacturer: Ohkura Electric Co., Ltd.
Format: It records in the main body plaque.
Manufacture date: It records in the main body plaque.
Manufacture country: Japan

Note: Windows XP / Vista, Excel are registered trademarks of Microsoft Corporation.

The symbols below are used on this instrument for the cautioning information.

Symbols used on the instrument	
	This shows “Caution for handling”. This symbol is used on the parts need to reference the instruction manual for saving human body and the instrument.
	This shows “Protective grounding”. Be sure to provide protective grounding prior to operate this instrument.
	This shows “Risk of electric shock”. This symbol is used on the parts, which has a risk of electric shock.

Be sure to observe the following warnings/cautions and those provided in the text in order to secure safety in handling the instrument.

⚠ WARNING

General	In order to prevent electric shock; be to disconnect this instrument from the main power source when wiring it.
Protective Grounding	(1) In order to prevent an electric shock; be sure to provide protective grounding prior to turning on this instrument. (2) Do not cut a protective grounding conductor or disconnect protective grounding.
Power Source	Make sure that the supply voltage for this instrument conforms to the voltage of the supply source.
Working Environment	Do not operate this instrument in the environment where it is exposed to a combustible / explosive / corrosive gas or water / steam.
Input and Output Wiring	Provide input and output wring after turning off the power.

⚠CAUTION

Input and Output Wiring

Do not use empty terminals for other purposes such as relaying, etc.

Reverse-insertion attention

Please confirm the direction to the insertion of SD card.
When forcibly inserting it in a wrong direction, SD card and the terminal on the main body side might be destroyed.
Please mote that the damage of the equipment by the reverse-insertion becomes off the subject of amends.

Inside of Instrument

Do not touch the switches, etc. inside this instrument. Also, do not replace the main unit or printed circuit boards. When this is neglected, we cannot guarantee functioning of the instrument. Contact our dealer where you purchased the instrument, or our sales representative.

[Note]

Instruction Manual

(1) Deliver this instruction manual to an end user.
(2) Prior to handling this instrument, be sure to read this manual.
(3) If you have any questions on this manual or find any errors or omissions in this manual, contact our sales representative.
(4) After reading this manual, keep it carefully by the instrument.
(5) When the manual is lost or stained, contact our sales representative.
(6) It is prohibited to copy or reproduce this manual without our permission.

Installation

(1) When installing this instrument, put on a protective gear such as safety shoes, helmet, etc. for your safety.
(2) Do not put your foot on the installed instrument or get on it, because it is dangerous.

Maintenance

Only our serviceman or persons authorized by OHKURA are allowed to remove and take the inner module, the main unit and printed circuit boards apart.

Disposal

(1) Dispose the replaced batteries in a correct way.
(2) Do not incinerate plastics of maintenance parts and replacement parts. A harmful gas maybe produced.

Cleaning

(1) Use dry cloth to clean the surface of this instrument.
(2) Do not use any organic solvent.
(3) Cleaning the instrument after turning off the power.

Revisions

This instruction manual is subject to change without prior notice.

Free Dial

（The Inquiry about the industrial instrument）
About the handling of the product and maintenance: 0120-17-0096

＜Contents＞

1. INTRODUCTION

1.1 Paperless Recorder

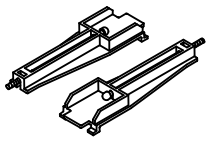
① This recorder displays measured data in real time on the liquid crystal display. It is a paperless type that is also capable of saving the measured data to a SD memory card (hereinafter referred to as SD card). It can operate easily with the liquid crystal with the touch panel.

② It can set up to 12 channels for the input types such as thermocouple, resistance bulb, and DC voltage (or current).

③ It allows the measured data saved to the SD card to be displayed on the display unit.
Use of the support software attached to the recorder allows the saved data to be displayed on a personal computer.

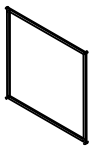
1.2 Accessory check

Upon receiving the recorder unit, check the appearance for damage, and if the correct quantity of the accessories are supplied. Please contact the shop that purchases it or our salesman when there is a part not suitable by any chance.

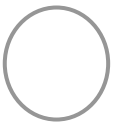


① Panel-mounting bracket

② CD-ROM
（Operation manual, Support software）



③ Panel packing



④ O-ring for waterproof

1.3 When temporarily keeping it

Please keep this recorder in the following environment. Please keep it in the following environment when it is built in the device.

⚠ CAUTION

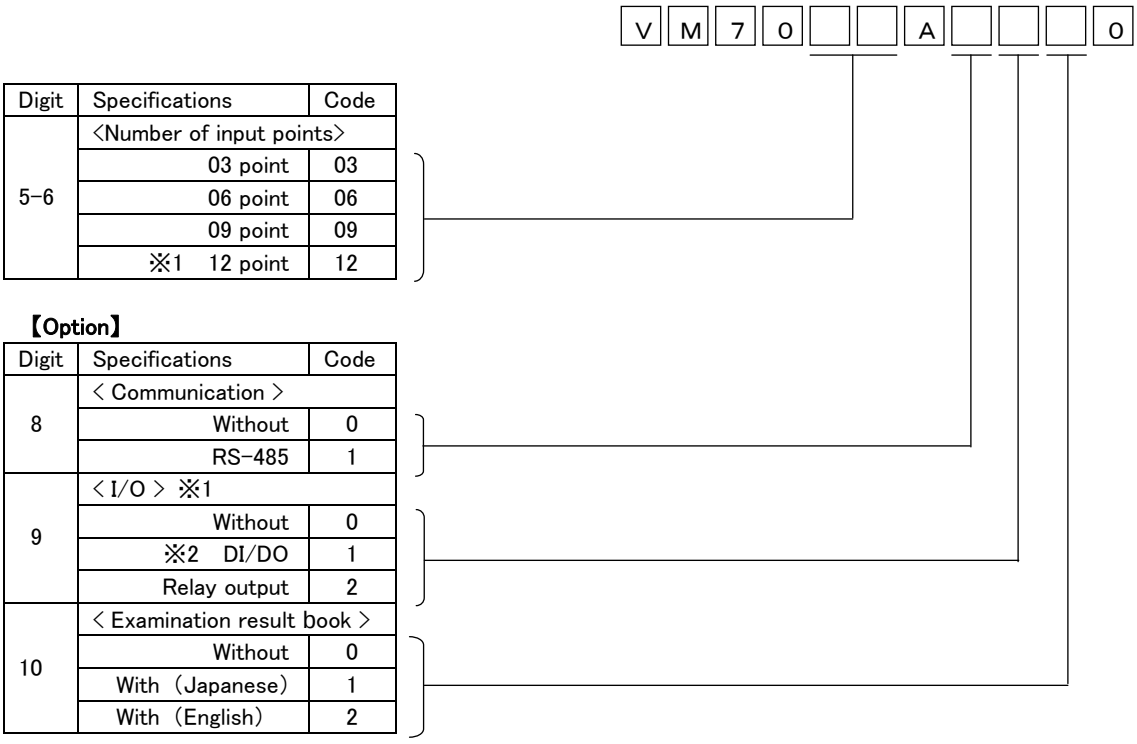
Externals, the function, and the longevity etc. of the product might be ruined when keeping it in poor surroundings.

Environment when keeping it

- Place where dust are little.
- Place that doesn't include flammable gas, firedamp, causticity gas (SO_2、H_2S).
- Place without vibration and impact.
- Place where and where steam is a little. Place where moisture is a little.
- Place where direct sunshine doesn't strike. Place that doesn't become high temperature.
- Place that becomes low temperature too much.

1.4 Confirmation of form and specification

The plaque to which the form name has been described is on the case. Please confirm this equipment is a specification the same as the order referring to the table below.



Digit	Specifications	Code
5-6	<Number of input points>	
	03 point	03
	06 point	06
	09 point	09
	※1 12 point	12

【Option】

Digit	Specifications	Code
8	< Communication >	
	Without	0
	RS-485	1
9	< I/O > ※1	
	Without	0
	※2 DI/DO	1
	Relay output	2
10	< Examination result book >	
	Without	0
	With （Japanese）	1
	With （English）	2

1.5 Handling SD card

Correspondence SD card is as follows.

・Panasonic's　1～32GB

・SanDisk's　　1～32GB

There is no SD card in this equipment. Please buy it in the computer shop etc.

⚠ CAUTION

・Please go with the personal computer that uses it without fail when you format the SD card.

・Please confirm it is a correct direction and the firm insertion when it installs it. The recorder cannot recognize the SD card when forcibly inserting it in a wrong direction. Moreover, it causes the breakdown of the SD card and the main body of the recorder. Please note that the damage of the equipment when it reversely inserts it becomes off the subject of the guarantee.

・Please do not turn off power in read/write of the SD card, and do not detach the SD card. Data might damage, and delete it.

・The data preserved on the card recommends the backup to be booked once a month.

・When the SD card breaks, important recorded data is lost. Please book the backup. Please confirm capacity that the adaptor can correspond well when you use the SD card adaptor.

・Please do not format it when the capacity of the card that tries to be formatted is bigger than the capacity that can correspond. The recorder doesn't recognize it though it is likely to assume that it was possible to format it on Windows if it formats it and to end.

① Standard of record

The standard of the record when the SD card of 2GB is used is as follows. Please note that the capacity that can be recorded by the situation of the occurrence of warning and the message is different.

[Condition]

- Number of inputs　:　6 point
- Recorded data form　: Binary
- Record type　: Maximum/minimum value record
- There is no event of the alarm, message etc.

Capacity of SD card	2GB				
File preservation cycle	1 hour			1 day	
Data logging cycle	1 sec	2sec	5sec	10sec	1min
Capacity that can be recorded	1.0 year	1.4 year	1.8 year	14.0 year	33.7 year

② Timing of data writing

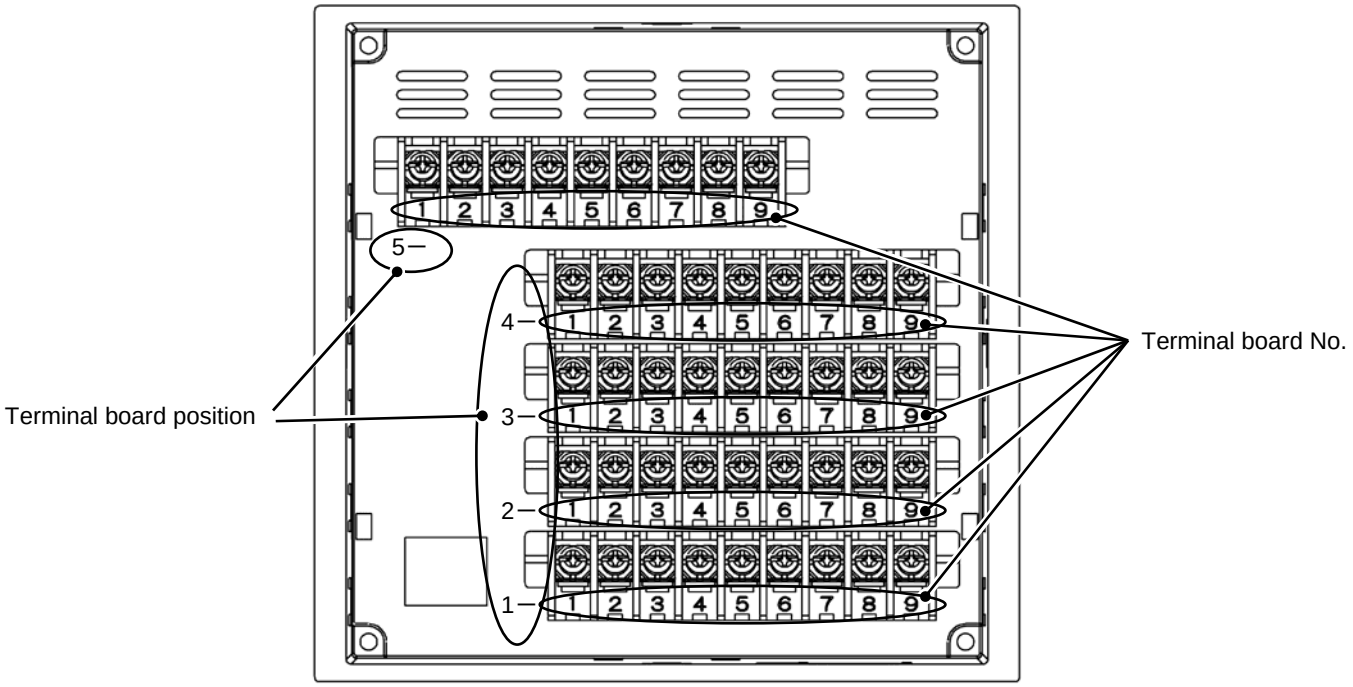
Recorded data is automatically written to the SD card before it is first preserved in an internal memory, and capacity disappears.

2. WIRING

2.1 Connection to terminals

Terminal board is in the uppermost part and there is 4-stage or less in the lower side for 1-stage and the input.

Allocate the number for 1 to 9 in terminal board of each stage. The specified terminal board position and number to each terminal board screw.

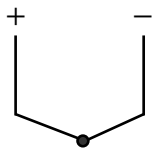


Terminal board position	Terminal board No.								
	①	②	③	④	⑤	⑥	⑦	⑧	⑨
5−	POW			NC	COM ALM		NC	RS-485	
	L	N	G		A	C		+	−
4−	CH.10			CH.11			CH.12		
	+ A	− B	V B	+ A	− B	V B	+ A	− B	V B
3−	CH.7			CH.8			CH.9		
	+ A	− B	V B	+ A	− B	V B	+ A	− B	V B
2−	CH.4			CH.5			CH.6		
	+ A	− B	V B	+ A	− B	V B	+ A	− B	V B
1−	CH.1			CH.2			CH.3		
	+ A	− B	V B	+ A	− B	V B	+ A	− B	V B

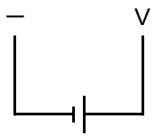
The terminal board 2-, 3- and 4- is not used, according to the number of input channels.

Detail of terminal arrangements to each input for 1 to 12 CH.

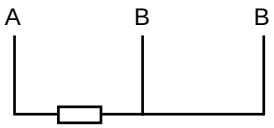
<Thermocouple・mV>



<V>

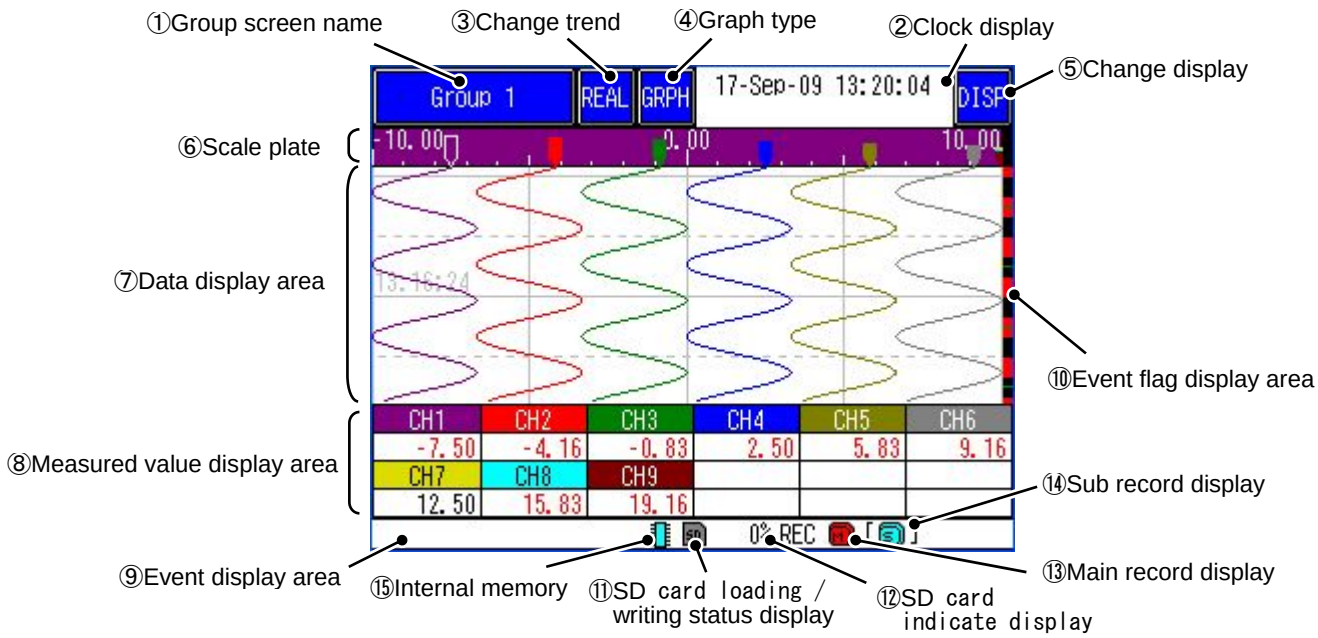


<RTD>



3. DISPLAY FUNCTION

3.1 Basic composition of Data Display screen



① Group screen name

Display the screen name (“Display Name”) that was set arbitrarily. The group screen can be changed by touching.

② Clock display

Upper stage：Displays currently date and time.

Lower stage：Displays date and time in cursor area, when Historical trend display.

③ Change trend

The type of trend display can be changed by touching.

The name corresponding to the trend screen displayed now is displayed.

REAL：Real time trend display

HIST：Historical trend display

④ Graph type

The type of graph display can be changed by touching.

(“Horizontal trend display” → “Vertical trend display” → “Bar graph display” → “Digital display” → “Event log” → “Horizontal trend display”…)

⑤ Change display

The displaying method of screen can be changed by touching.

(“Display all ON” → “⑥Scale plate OFF” → “⑧Measured value display area OFF” → “⑥Scale plate / ⑧Measured value display area OFF” → “Display all ON” …)

⑥ Scale plate

Display scale on the “⑦Data display area”. The scale width and display color corresponding to the channel is changed, when each channel point of “⑧Measured value display area” is touched.

⑦ Data display area

Allow the Real time trend display, Historical trend display, Bar graph display and Digital display to be displayed. (See item 3.2 to 3.5)

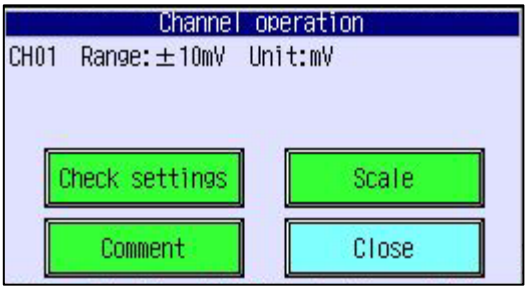
Display measured data at the position of the cursor when Historical trend display.

⑧ Measured value display area

Display the currently measured value. The trend corresponding to the channel is displayed by touching channel in the heavy line for 3 second, and displays the currently setting unit on the channel display area.

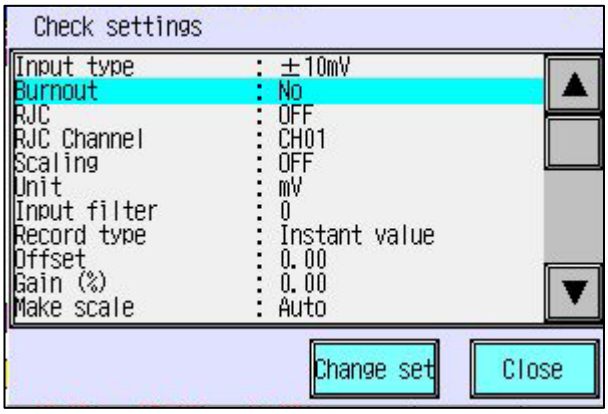
The display color of "⑥Scale plate" and the scale width are changed to corresponding what.

The setting contents of the channel etc. can be verified, when keeps touching for 3 second.



Check settings: The setting status can be verified. And, a set item that becomes an object is selected touching, and Change set button can be moved directly to the selected set screen by touching.

Change set button can only be displayed when the "Mode" is "Advanced".



Scale: The scale can temporarily be changed.

Comment: The comment point is specified on the trend screen, and it can input one's comments the position.

⑨ Event display area

It displays alarm information that occurs at present. (channel No. and alarm No.)

⑩ Event flag display area

The time when the event of the alarm, message and input etc. has been generated is displayed in red.

⑪ SD card loading / writing status display

It indicates the loading state of the SD card.

Gray display：shows the state where the SD card is not loaded in the slot.

Aqua display：shows the state where the SD card is loaded in the slot.

⑫ SD card indicate display

It indicates how much of the SD card has be used in percentage.

⑬ Main record display

It indicates the state of the main record.

Aqua display：shows the state where the main record is not started.

Red display：shows the state where the main record is started.

Real time trend display is displayed data (trend line) only while recording.

⑭ Sub record display

It indicates the state of the sub record.

Aqua display：shows the state where the sub record is not started.

Red display：shows the state where the sub record is started.

Real time trend display is displayed data (trend line) only while recording.

⑮ Internal memory

It indicates the state of the internal memory.

Aqua display：shows the state where the internal memory is not access.

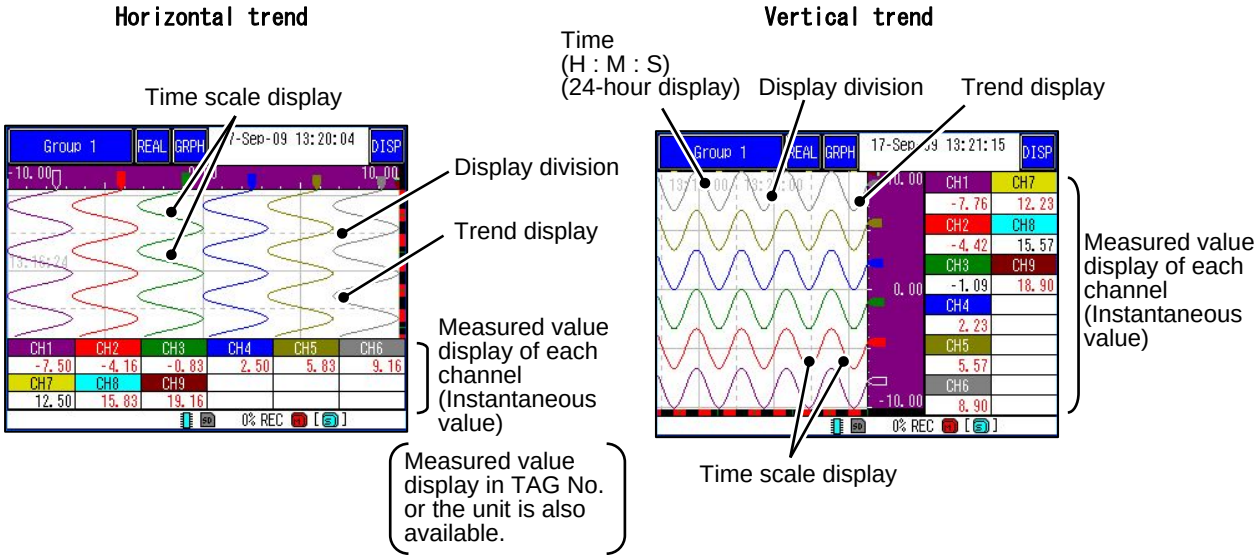
Red display：shows the state where the internal memory is access.

3.2 Real time trend display of measured data

[Explanation]

The measured data can be display in graph. The vertical or horizontal trend directions can be selected by touching to GRPH button.

The refreshment cycles of graph synchronizes record cycles.



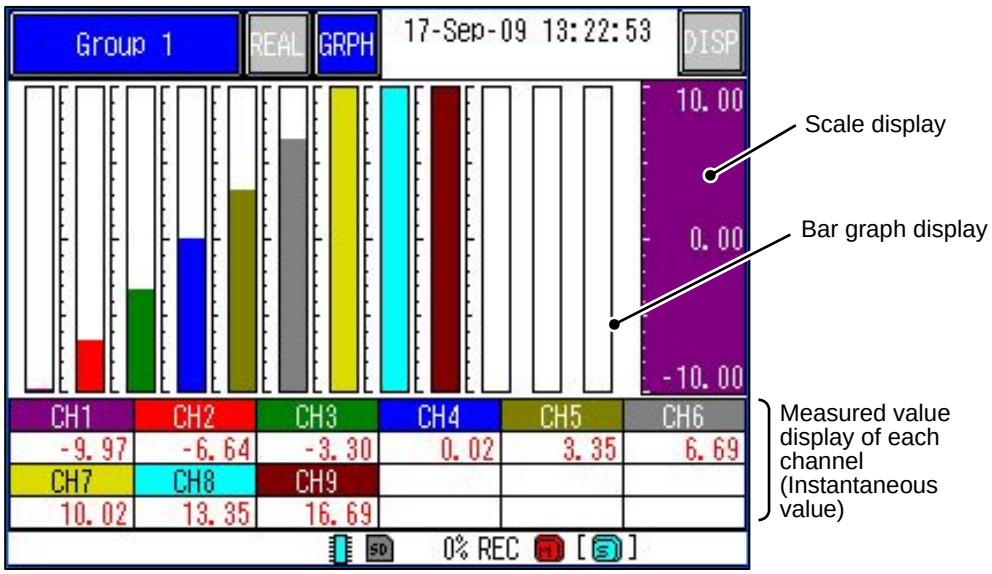
3.3 Display of measured data in bar graphs

[Explanation]

The measured data can be display in bar graph.

[Operation]

The measured data can be changed bar graph by touching the GRPH button several times.



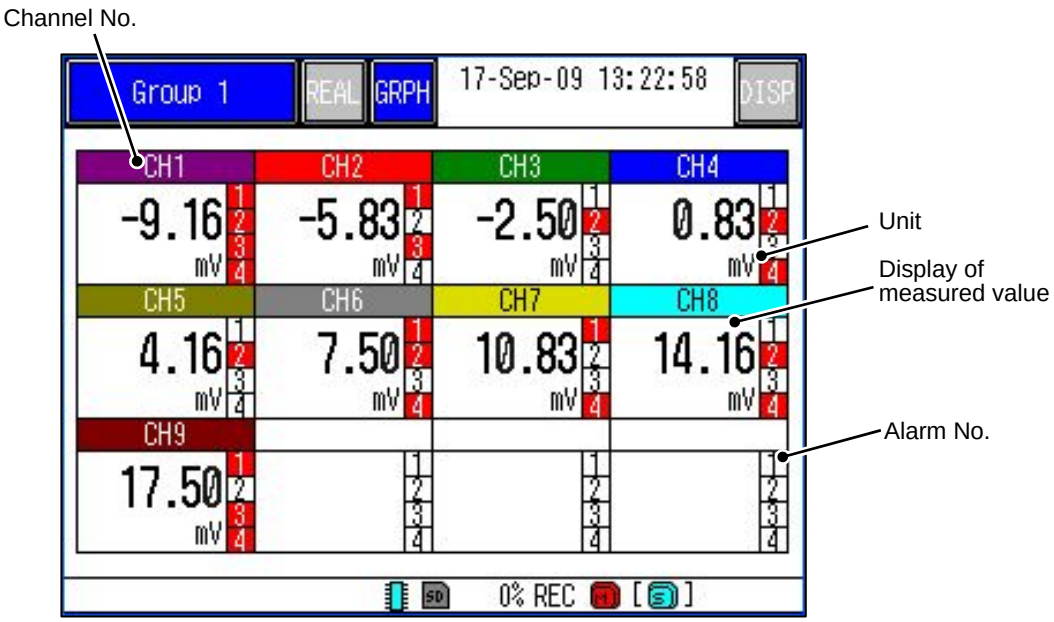
3.4 Digital display of measured data

[Explanation]

The measured data can be display in digital graph.

[Operation]

The measured data can be changed digital graph by touching the GRPH button several times.



① Measured values of each channel are displayed in digital value.

② When an alarm occurs, Alarm No. at the channel is displayed in red.

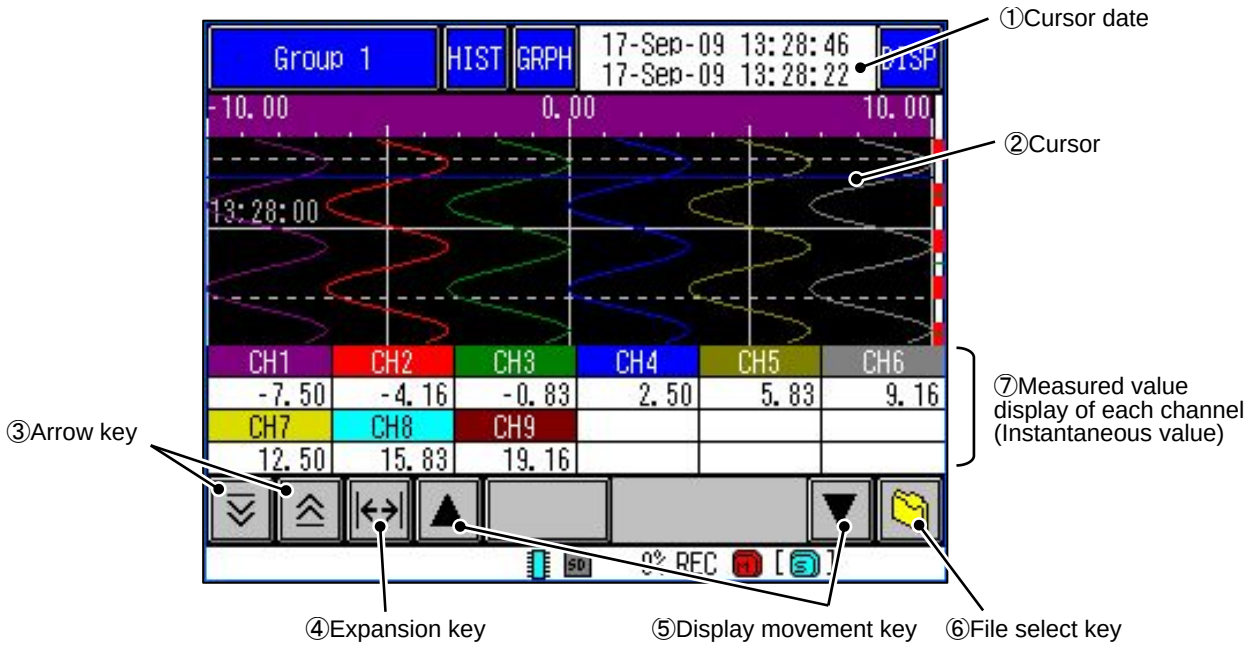
3.5 Historical trend display

[Explanation]

The past data of currently recoding data or the data saved in the past can be read and displayed.

[Operation]

Press the REAL button on the Real time trend display, and the following display appears.



① Cursor date

The date that the "②cursor" indicates is displayed. (Upper stage is currently date)

② Cursor

This date of line for measured value is displayed on the "⑦Measured value display of each channel".

③ Arrow key

The position of cursor can be moved.

④ Expansion key

Select the minimum and the maximum values, and expands graph display area on the range.

The standard size can be returned by touching again.

⑤ Display movement key

The graph display area can be moved.

⑥ File select key

The data saved in the past can be read and displayed.

The following items are displayed on the historical trend display based not on the setting of the past recording but on the currently selected values.

- Trend direction
- Number of screen partition
- Trend scale display
- Color bar display selection

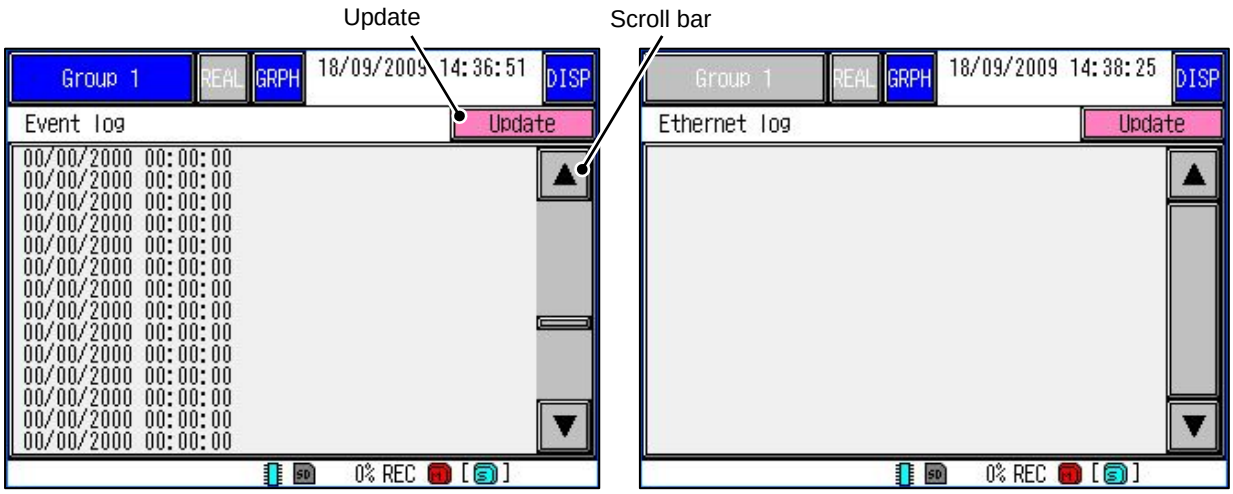
3.6 Event history / communication history display

[Explanation]

When a specific event is generated in the data recording now, it is possible to make a mark.

[Operation]

The event history display can be displayed by touching the GRPH button several times. And, the screen can be changed communication history display by touching the DISP button several times.



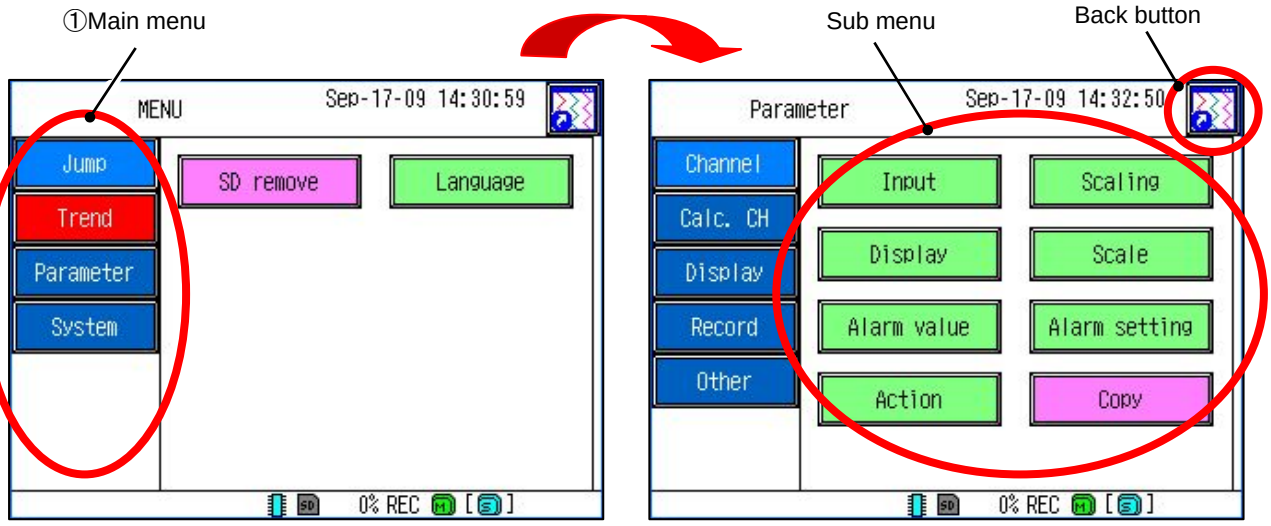
4. SETTING AND CHECKING PARAMETERS

4.1 Setting and checking

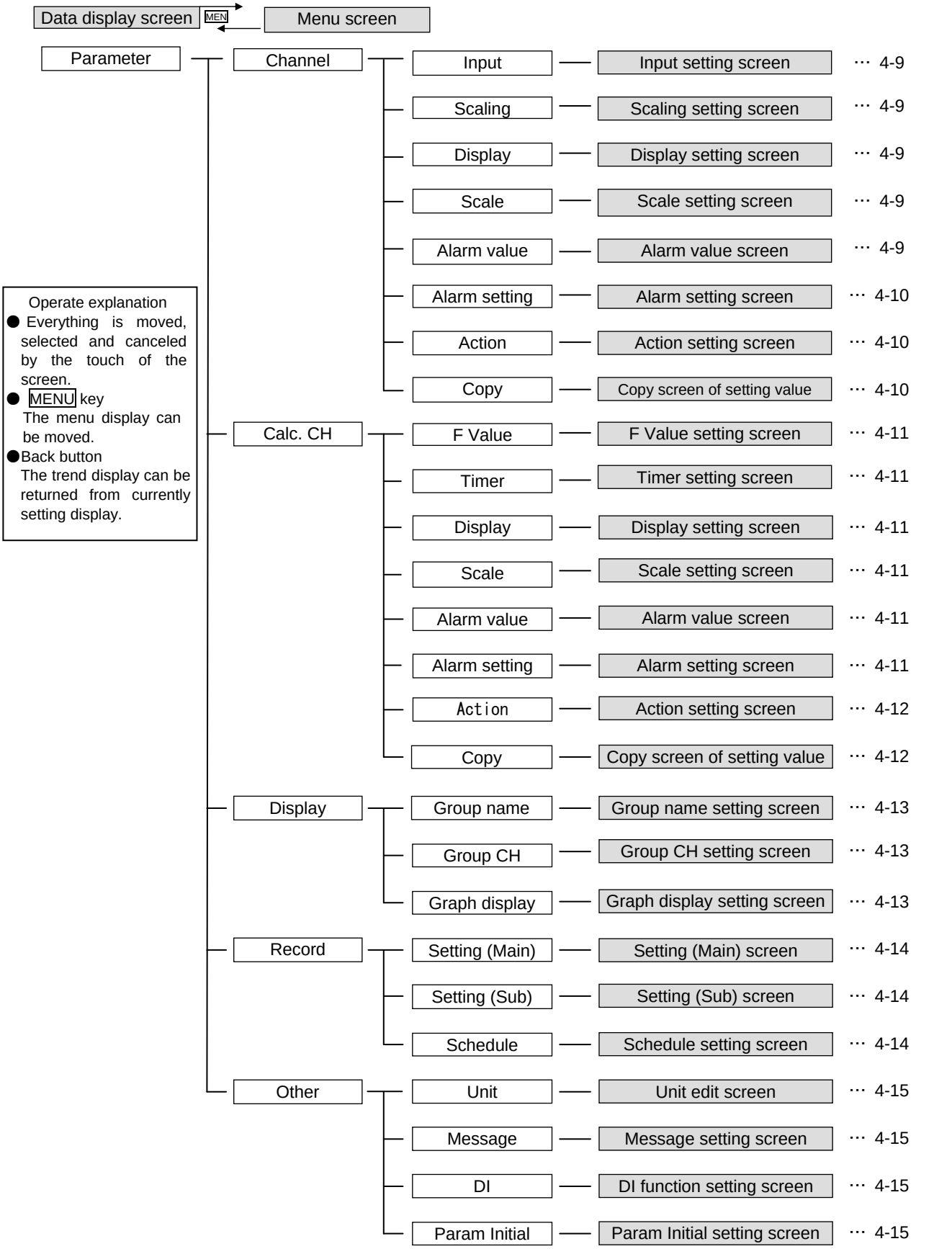
① Main menu

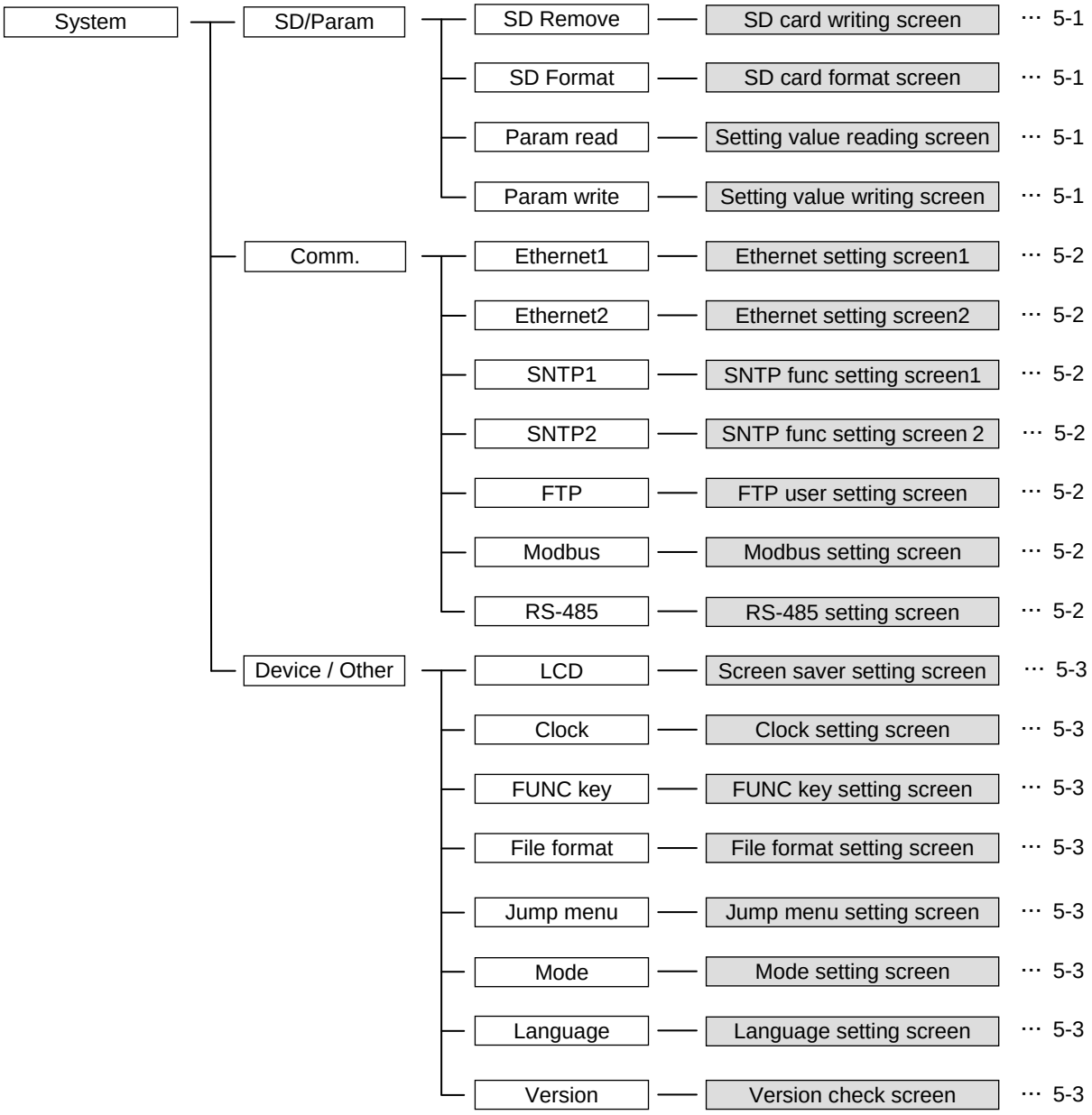
The menu display can be displayed by pressing MENU key. The parameter setting display can be displayed by select “Parameter” touching.

Refer to Item 4.2 for the contents and the operation of the parameter setting display.



4.2 Outline of parameter setting procedure




System
SD/Param
SD Remove
SD card writing screen
··· 5-1
SD Format
SD card format screen
··· 5-1
Param read
Setting value reading screen
··· 5-1
Param write
Setting value writing screen
··· 5-1
Comm.
Ethernet1
Ethernet setting screen1
··· 5-2
Ethernet2
Ethernet setting screen2
··· 5-2
SNTP1
SNTP func setting screen1
··· 5-2
SNTP2
SNTP func setting screen 2
··· 5-2
FTP
FTP user setting screen
··· 5-2
Modbus
Modbus setting screen
··· 5-2
RS-485
RS-485 setting screen
··· 5-2
Device / Other
LCD
Screen saver setting screen
··· 5-3
Clock
Clock setting screen
··· 5-3
FUNC key
FUNC key setting screen
··· 5-3
File format
File format setting screen
··· 5-3
Jump menu
Jump menu setting screen
··· 5-3
Mode
Mode setting screen
··· 5-3
Language
Language setting screen
··· 5-3
Version
Version check screen
··· 5-3

4.3 Basic operation of setting screens

[Explanation]

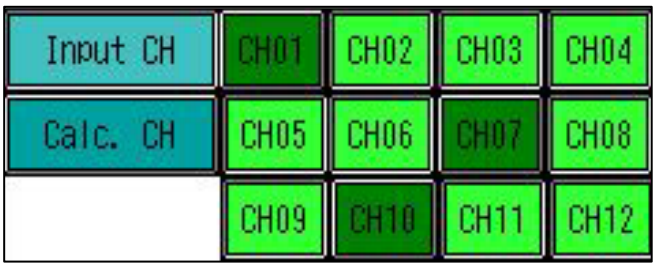
The basic operation of the setting screens is classified in the following 3 methods. In this case, the menu corresponding to the setting menu is moved by touching menu.

① When selecting contents to set by the menu.

In this case, the channel select display can be changed by selects “CH01” touching.

The range is selected can be changed deep color by touching you want to select channel, and the arbitrarily setting channel.

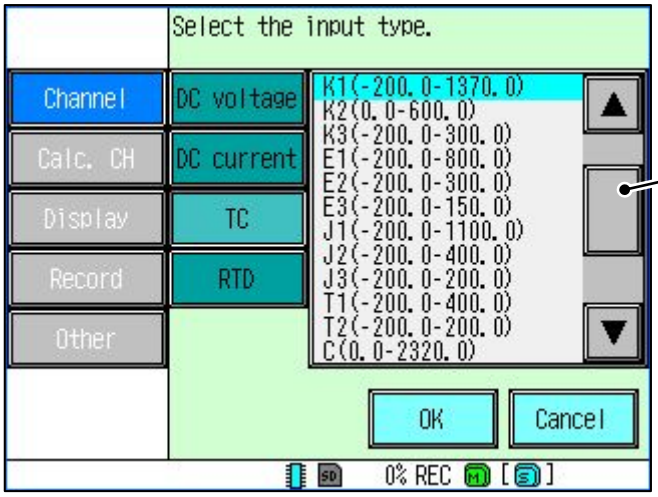
The channel No. can be directly changed by touching these arrow keys. (◀, ▶)



② When selecting contents to set from scroll bar.

The scroll bar is displayed when there is a selection item that exceeds the size of the screen.

The display can be changed by touching arrow key (▲, ▼) or sliding scroll bar.



Scroll bar

③ When setting contents by entering characters or numerical value.

In this case, touch the "Group 1" to display the character entry display.

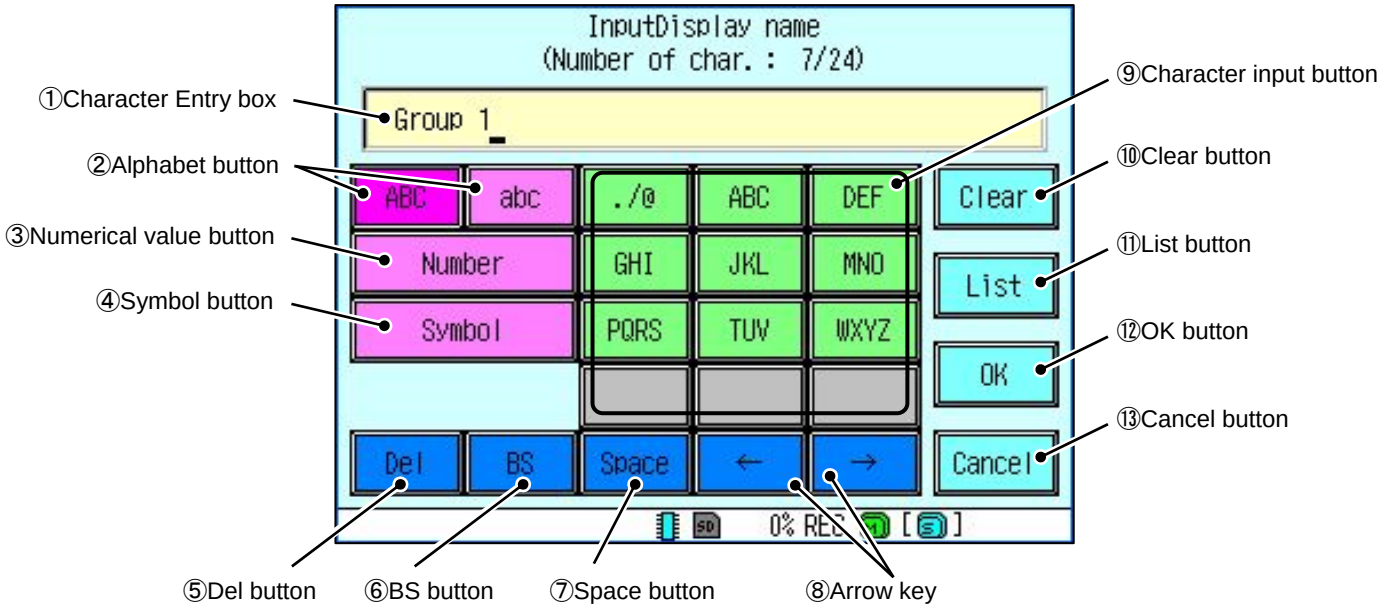
Touch the buttons to enter a character one by one, and touch the OK button after entry.

The some characters corresponding to the one button. The character can be changed by touching the same button several times.

Example：In this case of the touching ABC button. ("A" → "B" → "C" → "A" ...)

[Reference]

Description of Character Entry screen



① Character Entry box

The input character is displayed.

② Alphabet button

The capital letters and small letters can be changed.

③ Numerical value button

The numerical value input can be changed.

④ Symbol button

The symbol input can be changed.

⑤ Del button

The character or numerical value of the currently cursor position can be deleted.

⑥ BS button

The character or numerical value of the currently cursor position ahead a character can be deleted, and the cursor is moved to the left.

⑦ Space button

The space character can be inputted.

⑧ Arrow key

The arrow key can be moved.

⑨ Character input button

The button is to input character.

In case where the character string is filled with blank, delete the blank and then enter characters. You can’t enter characters without deleting blank.

The “voice sound symbol” and “semivoiced sound symbol” uses one character's worth of an area.

They should advance one character with the arrow key (→), when you continuously input the character allocated in the same button.

⑩ Clear button

It has input character or numerical value can be all deleted.

⑪ List button

The input character can be selected from character string list.

⑫ OK button

The input contents can be entered.

⑬ Cancel button

The input contents can be canceled.

4.4 Setting the input spec of channel

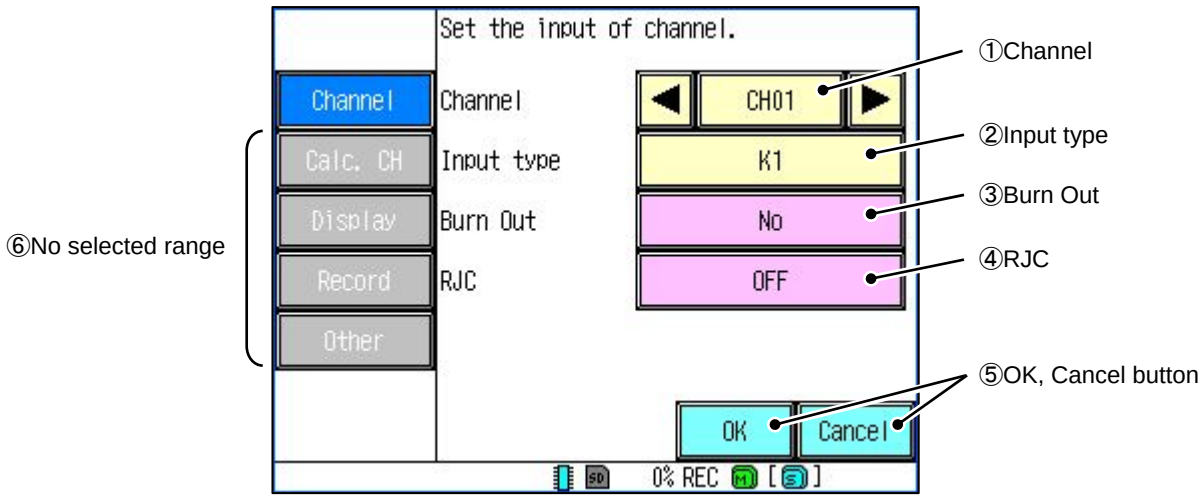
[Explanation]

For select of the input types for each channel (thermocouple, resistance bulb and DC voltage input), and the presence of Burn Out function can be set.

Note: When the recorder is in recording, the "Input type" cannot be changed.

[Operation]

Select the "Channel" → "Input" on the "Parameter".

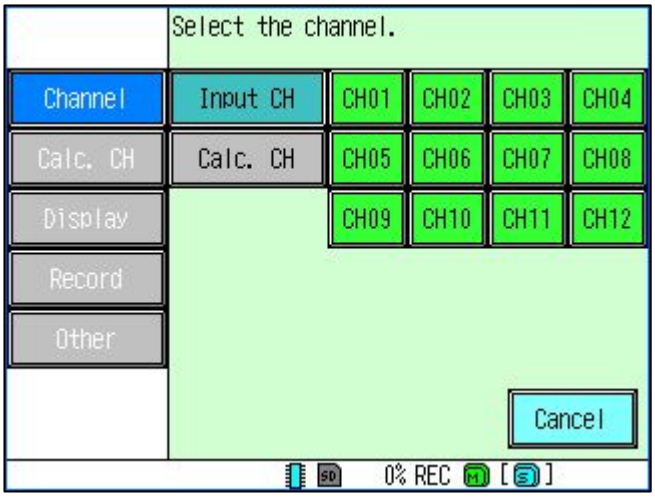


① Channel

The channel select display can be displayed by selects "①Channel" touching.

Select the arbitrarily channel number by touching. (After select, return to input setting display automatically)

Touch the Chancel button when not changing.



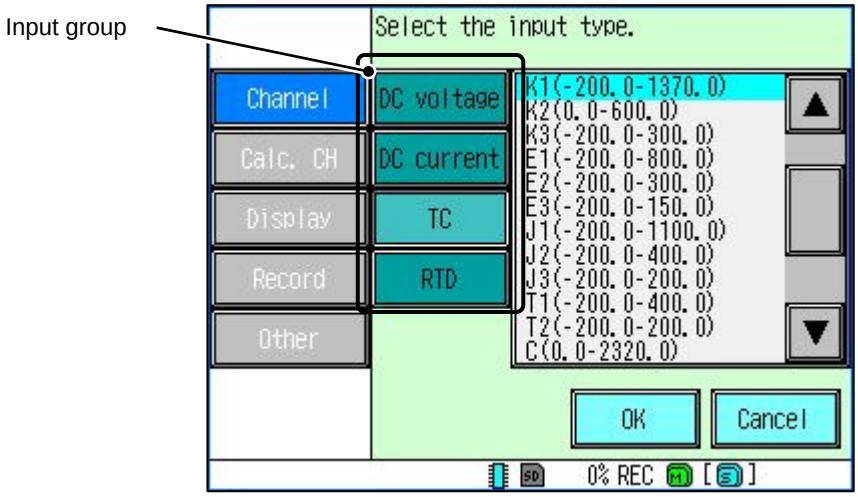
② Input type

The input type select display can be displayed by selects "②Input type" touching.

The list of input type can be displayed by touching input group. Selects the input signal touching, and sets OK button touching. (The selected item is displayed in blue)

The display can be changed by touching arrow key (▲, ▼) or sliding scroll bar.

Touch the Chancel button when not changing.



③ Burn Out

Setting the Burn Out function.（The record swings over to the 0% side or the 100% side）

Burn Out function can only be set when the input type is “TC”.

④ RJC

The channel that measures RJC function can be turned on, and turning off be selected.

⑤ OK, Cancel button

The each setting for changing contents is saved by the OK button. And, the “Parameter” can be returned not change by the Cancel button.

⑥ No selected range

The gray color is displayed that cannot be selected now. In this case, can be selected by presses OK button (or Cancel button) returning to “Parameter”.

4.5 Channel

［Input］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
Input type	Set the input type.	
Burn Out	Select the Burn Out function.	
RJC	Select the RJC function. ※1	○
RJC Channel	Select the RJC channel. ※2	○

※1 Burn Out function can only be displayed when the input type is “TC”.

※2 RJC Channel can only be displayed when the “RJC” is “Assignment channel”.

［Scaling］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
Scaling	Set the scaling and square rooter. ※1	
Range	Input the value of range. ※2	
Ind. Value	Input the Ind. Value. ※2	
Ind. value DP	Set the Ind. Value DP. ※2	
Unit	Set the unit. ※2	

※1 Scaling can only be displayed when the input type is “DC voltage” or “DC current”.
(Scaling is not displayed when the input type is “TC” or “RTD”.)

※2 This item can only be displayed when the “Scaling” is “ON” or “Square root ON”.

［Display］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
TAG	Input the TAG.	
Description	Set the comment for input channel.	
Display color	Select the display color.	

［Scale］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
Range of scale	Input the range of scale.	
Partitions	Input the value of partitions.	○

［Alarm value］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
Act.	Select the Action type.	
OUT	Select the DO number.	
Value	Input the alarm value. ※	

※ Value cannot be set when the “Act.” is “abnormalities”

［Alarm setting］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	○
Hysteresis	Input the value of Hysteresis.	○
Alarm Delay	Input the value of Alarm Delay.	○

［Action］

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH1 to CH12.)	
Input filter	Input the value of Input filter.	
Record type	Select the Record type.	
Offset	Input the value of Offset.	
Gain (%)	Input the value of Gain.	

［Copy］

Item	Setting contents	Advanced
Source CH	Select the Copy source channel number.	
Destination CH	Select the copy destination channel number. (Plurals can be selected.)	

4.6 Calc. CH

[F value]

Item	Setting contents	Advanced
Reference temp.	Input the value of Reference temp.	○
Z value	Input the Z value.	○
Start temp.	Input the value of Decimal point.	○
Manual reset	Start the Manual reset.	○

[Timer]

Item	Setting contents	Advanced
T1 timer(sec)	Input the value of T1 timer.	○
T2 timer(min)	Input the value of T2 timer.	○

[Display]

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH13 to CH48.)	○
TAG	Input the TAG.	○
Description	Set the comment for input channel.	○
Display color	Select the display color.	○

[Scale]

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH13 to CH48.)	○
Range of scale	Input the range of scale.	○
Partitions	Input the value of partitions.	○

[Alarm value]

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH13 to CH48.)	○
Act.	Select the Action type.	○
OUT	Select the DO number.	○
Value	Input the alarm value. ※	○

※ Value cannot be set when the “Act.” is “abnormalities”

[Alarm setting]

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH13 to CH48.)	○
Hysteresis	Input the value of Hysteresis.	○
Alarm Delay	Input the value of Alarm Delay.	○

[Action]

Item	Setting contents	Advanced
Channel	Select the channel number. (Select range is for CH13 to CH48.)	○
Input filter	Input the value of Input filter.	○
Record type	Select the Record type.	○
Offset	Input the value of Offset.	○
Gain (%)	Input the value of Gain.	○

[Copy]

Item	Setting contents	Advanced
Source CH	Select the Copy source channel number.	○
Destination CH	Select the copy destination channel number. (Plurals can be selected.)	○

4.7 Display

［Group name］

Item	Setting contents	Advanced
Group	Select the group number.	
Display name	Set the Display name.	
TAG disp set	Select the TAG display set.	
Display	Select the display “ON”, “OFF”. ※	

※ Display cannot be set when the “Group” is “Group1” or “Sub Group”.

［Group CH］

Item	Setting contents	Advanced
Group	Select the group number.	
Chanel No.	The selected part is brightly displayed, and an arbitrary channel can be set.	

［Graph display］

Item	Setting contents	Advanced
Group	Select the group number.	
Horizontal trend	The Horizontal trend display is “ON” and “OFF” is selected.	
Vertical trend	The Vertical trend display is “ON” and “OFF” is selected.	
Bar graph	The Bar graph display is “ON” and “OFF” is selected.	
Digital display	The Digital display is “ON” and “OFF” is selected.	

4.8 Record

[Setting(Main)]

Item	Setting contents	Advanced
Record Cycle	Select the Record Cycle.	
File rec cycle	Select the File rec cycle.	
File overwrite	Select the File overwrite function, when SD card memory full. ※	

※ Old data is deleted and operation is set when select the "ON".

The record operation is stopped when the amount of the memory remainder is lost when select the "OFF".

[Setting(Sub)]

Item	Setting contents	Advanced
Sub rec cycle	Select the Sub record cycle.	○
Sub pre rec	Select the Sub pre record.	○
Sub rec timing	Select the Sub record timing.	○
DI No.	Select the DI number. ※	○

※ “DI No.” can only be displayed when the “Sub rec timing” is “DI”.

[Schedule]

Item	Setting contents	Advanced
Schedule	Select the Schedule.	○
Start time	Input the value of Start time.	○
End time	Input the value of End time.	○
Select week	Select the week. (Plurals can be selected.)	○

4.9 Other

［Unit］

Item	Setting contents	Advanced
Unit	The edit display of new unit can be moved by touching “Add”.	

［Message］

Item	Setting contents	Advanced
Message No.	Select the Message number.	○
Message	Input the Message.	○
Timing	Select the timing of message is displayed.	○
Channel No.	Select the channel number. ※1	○
Alarm No.	Select the alarm number. ※1	○
DI No.	Select the DI number. ※2	○

※1 This item can only be displayed when the “Timing” is “Alarm occurred” or “Alarm cleared”.

※2 “DI No.” can only be displayed when the “Timing” is “DI ON” or “DI OFF”.

［DI］

Item	Setting contents	Advanced
DI No.	Select the DI Number.	○
Function	Select the DI function.	○

［Param initial］

Item	Setting contents	Advanced
Param initial	Initialize the parameter.	

［Wizard］

Item	Setting contents	Advanced
Wizard	An at least necessary set item can continuously be set to each channel.	※

※ Wizard can only be displayed when the “Mode” is “Normal”.

5. SETTING AND CHECKING SYSTEMS

5.1 SD / Param

［SD remove］

Item	Setting contents	Advanced
SD remove	Start the remove SD card.	

［SD format］

Item	Setting contents	Advanced
SD format	Start the format SD card.	

［Param read］

Item	Setting contents	Advanced
Param read	Select the reading file.	

［Param write］

Item	Setting contents	Advanced
Param write	Select the writing file.	

5.2 Comm.

［Ethernet1］

Item	Setting contents	Advanced
IP Address	Input the IP Address.	
Subnet Mask	Input the Subnet Mask.	
Default GW	Input the Default GW.	
DNS address	Input the DNS address.	
MAC Address	Display the MAC Address.	

［Ethernet2］

Item	Setting contents	Advanced
Keep alive	Select the Keep alive function.	○
Keep alive cycle	Input the value of Keep alive cycle.	○

［SNTP1］

Item	Setting contents	Advanced
Current date	Display the Current date.	
SNTP Func	Select the SNTP function.	
SNTP address	Input the SNTP address.	
Cal cycle time	Input the value of Cal cycle time.	
Cal start	Start the calibration.	

［SNTP2］

Item	Setting contents	Advanced
Get the time, when power ON.	The function to acquire time when the power supply is turned on is “ON” and “OFF” is selected.	
Time zone(UTC)	Select the Time zone.	

［FTP］

Item	Setting contents	Advanced
User name	Input the User name.	
Password	Set the Password. (Cannot use space character in password.)	
Level	Select the Level.	

［Modbus］

Item	Setting contents	Advanced
Ope. select	Select the operation of Modbus.	○
Station No.	Input the value of Station number.	
Modbus TCP Receive timeout	Input the time until timeout.	

［RS-485］

Item	Setting contents	Advanced
Parity	Select the Parity function.	○

5.3 Device / Other

［LCD］

Item	Setting contents	Advanced
Sleep time(min)	Input the value of sleep time.	
Act. brightness	Input the value of LCD active brightness.	
Sleep brightness	Input the value of LCD sleep brightness.	

［Clock］

Item	Setting contents	Advanced
Current date	Display the Current date.	
Setting date	Input the value of Setting date.	

［FUNC key］

Item	Setting contents	Advanced
Function	Set the Function key.	

［File format］

Item	Setting contents	Advanced
File format	Select the File format.	

［Jump menu］

Item	Setting contents	Advanced
Add	The item added to the menu display is selected.	

［Mode］

Item	Setting contents	Advanced
Operation mode	Select the Operation mode.	

［Language］

Item	Setting contents	Advanced
Language	Select the Language.	
Date form	Select the Date format.	

［Version］

Item	Setting contents	Advanced
Version	Display the Version and Serial number.	

5.4 Engineering

［Explanation］

Do not change the setting when this item doesn't have the necessity for an industrial setting.