

## **Instruction Manual**

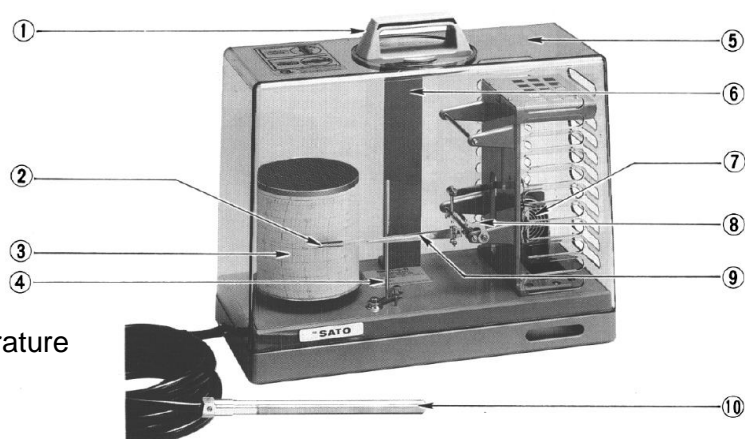
**No. 7200-00 Remote One Point Thermograph**

**No. 7202-00 Remote Two Point Thermograph**

**SATO KEIRYOKI MFG.CO.,LTD.**

## Components

1. Carrying handle
2. Pen cartridge
3. Recording cylinder
4. Pen Lifting bar
5. Acrylic Cover
6. Bracket
7. Bourdon tube
8. Fine adjustment screw for temperature
9. Pen arm
10. Sensing bulb



(No. 7200-00)

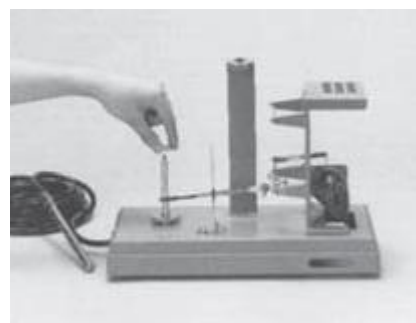
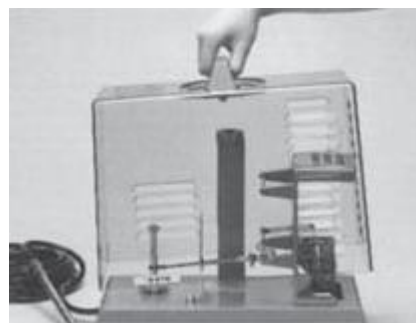
## Note before use

This product is shipped with strict inspection and proper packaging, however the indicated value may shift due to excessive shock or vibration during transportation. After unpacking, place the unit in a stable atmosphere for one hour or more and confirm that the indicated value is within the specified accuracy by comparison with the reliable thermometer. If the indicated value is out of accuracy specified, adjust the value referring to the "Indication adjustment"

If there are anything unclear, contact us or the dealer who purchased the unit from.

## ● Procedure for use

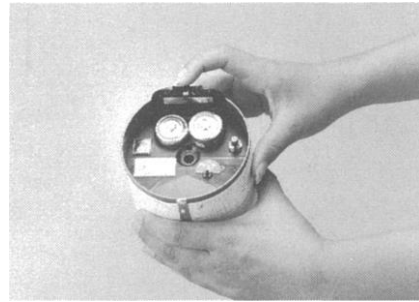
1. Turn carrying handle to left until it stops.
2. Lift the cover and remove it.
3. Pull the pen lifting lever fully toward you.
4. Remove the cylinder holding nut.



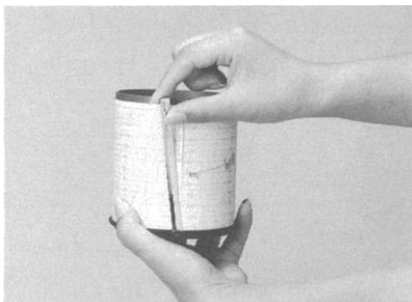
5. Open the lid pulling the lever outside.  
Insert batteries and close the lid.



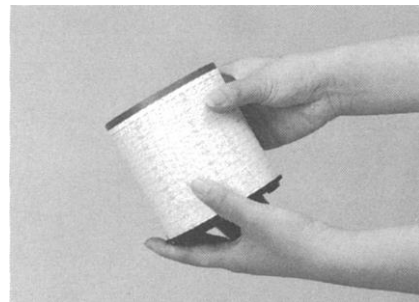
6. Insert two batteries and close the lid.



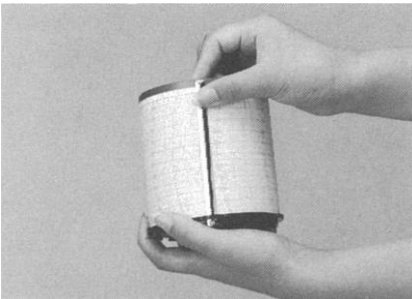
7. Remove chart holder.



8. Change chart.



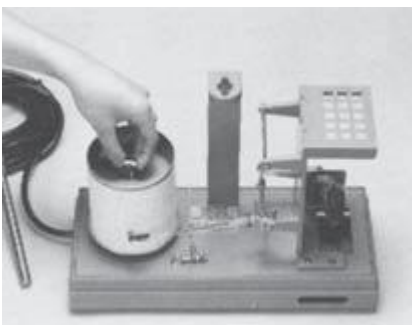
9. Attach chart holder.



10. Mount recording cylinder



11. Attach cylinder holding nut.



12. Lift pen holding clip and remove it.



13. Remove cap for cartridge pen by turning it counterclockwise.



14. Push pen lifting lever away from you until it stops.



15. Set time.



16. Turn carrying handle to the left and position the cover securely.



17. Turn carrying handle clockwise until stops.



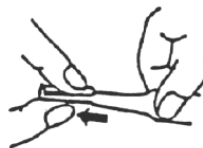
18. Insert the sensing bulb into object.



## Precautions

### Changing the pen

To remove the cartridge pen, hold the pen arm and pull toward the direction of the arrow. If it is hard to pull out hold, the pen arm with small pliers. Hold the pen arm near the pen. To set the pen, slide it onto the arm until it stops.



- Don't touch pen tip. (Ink will not flow smoothly due to grease on hand).
- Normally, cartridge pen will last a year (in use of 7 day chart), but life may be shortened by the conditions of use.  
(Example: about 3 months of continuous use at 20°C and 30%RH).

### Changing the chart

- Wind the new chart onto the cylinder so that the end of the paper will be put on the start of the chart.
- Secure the overlapping section with the chart holder.
- Make sure the markings the chart are aligned where the overlap occurs and the lower edge of the chart is against the bottom lip of the drum.

### Setting the time

Turn the cylinder counterclockwise to set the present time. Turning the cylinder clockwise is permissible, but the cylinder must be turned counterclockwise to the correct time to avoid play in the drum gear mechanism. Time may be delayed if procedure is done in reverse order.

### Installing the cover

Install the cover so that the ventilation slots will be to the right as viewed from the front of the Instrument.

## Installation

- Indicating section shall be installed horizontally at a place where the ambient temperature is normal and constant (about 20°C) avoiding the places subject to direct rain, streams, excessive dust, mechanical vibration, shocks etc.
- Rewind the wound lead wire without twisting it and install it at a place where partial temperature change is not likely.
- Insert sensing bulb fully into the object to be measured to obtain accurate indication of temperature.

## Other precautions

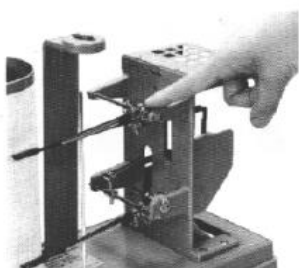
- For best results, use only the chart papers and the cartridge pens listed on page 5 of this manual. These papers and cartridge pens are made exclusively for our instruments, and we cannot guarantee the same accuracy with any other paper nor cartridge pen.
- Do not repair the instrument by yourself. Should repairs be necessary, please return the instrument to the place of purchase.

## Indication adjustment

We calibrate the instrument at our factory, so it is not necessary for you to make any other adjustments before use, if some adjustment is required, however follow these procedures.

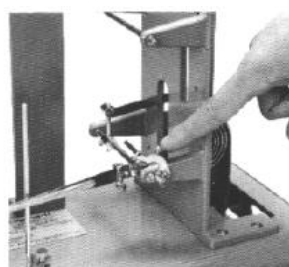
- Prior to fine adjustment, place the instrument in the area where measurements will be made for at least 30 minutes.
- To increase indicated reading, turn the fine adjustment screw counterclockwise. To lower the indicated readings, turn the fine adjustment clockwise.

Fine adjustment—upper position



(No. 7202-00)

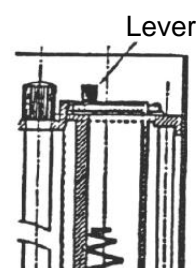
Fine adjustment-lower position



(No. 7200-00)

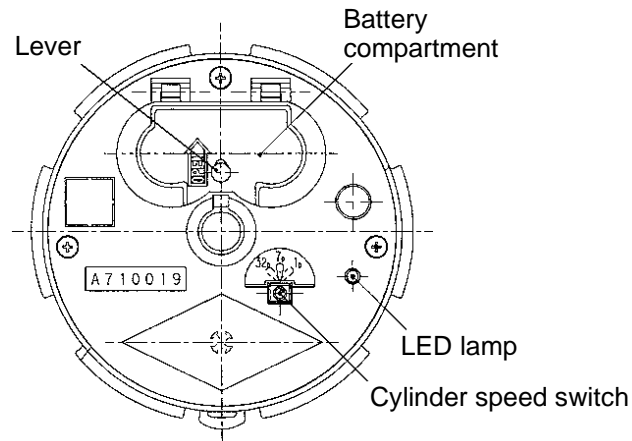
## Insert batteries

- The lid is opened when the lever is pulled outside.



- After inserting batteries, close the lid pushing it downward.

#### Name of each section



#### “How to check battery condition with LED lamp”

1. LED lamp will go out if the battery power is lower than  $2.2\text{VDC} \pm 10\%$  under normal ambient.
2. When the LED lamp goes out, replace batteries to new ones.

NB. Recording cylinder stops in one month after the LED lamp goes out.

#### Changing cylinder speed

The cylinder speed switch is set for 7-day operation when shipped from the factory. Set the switch at the top of cylinder clock to 32D for 32-day operation and change the chart to 32-day chart.



Cylinder speed switch

\* 1-day operation of both model and 32-day operation in No. 7202-00 can't be used because there are no applicable charts.

## Specifications

Model	No. 7200-00	No. 7202-00
Number of pens	1 pen	2 pens
Cylinder clock	Quartz Type	
Measuring Range	-15 to +50°C	
Measuring method	The movement of bourdon tube	
Recording period	7 day and 32 day	7 day
Lead wire	5m covered with vinyl	5m covered with vinyl for each
Sensing bulb	Plain connection w/o thread type (stainless steel)	
Accuracy	$\pm 1^{\circ}\text{C}$	
Min. graduation	$1^{\circ}\text{C}$	
Recording pen	Cartridge pen (violet)	
Dimensions	336(W) x 148(D) x 295(H) mm	
Weight	3.8kgs	4.7kgs
Accessories	1 pad (55 sheets) of 7-day chart, Chart holder, 2 manganese batteries	

## Consumable

No. 7200-62: 1 pad (55 sheets) of 7-day chart for No. 7200-00

No. 7200-64: 1 pad (55 sheets) of 32-day chart for No. 7200-00

No. 7202-62: 1 pad (55 sheets) of 7-day chart for No. 7202-00

No. 7210-90: Cartridge pen (violet) for No. 7200-00 and No. 7202-00

No. 7210-92: Cartridge pen (red) for no. 7200-00 and No. 7202-00

## WARRANTY POLICY

### Warranty

Our products are warranted to be free from defects in materials and workmanship for a period of one year from date of delivery. If repair or adjustment is necessary and has not been the result of abuse or misuse within the one-year-period, please return the units on - Freight Prepaid – basis and correction of the defect will be made without charges. We alone will determine if the product problem is due to deviations or customer misuse. - Out-of-warranty products will be repaired on charge basis -

### Warranty during transportation

The warranty during transportation only applies to the products that we arrange the shipment. The case that the products had been purchased in domestic and were sent to overseas by the purchaser is out of warranty.

### Return of items

Authorization must be obtained from us before returning items for any reason. When applying for authorization, please include data regarding the reasons the items are to be returned.

Please note that we reserve the right to make improvements in design, construction and appearance of our products without notice.

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