

No. 410

# General Catalog



SATO

# Corporate Profile

Name Sato Keiryoki Mfg. Co., Ltd.  
Activities Manufacturing and distribution  
Products Meteorological instruments, scientific instruments and laboratory apparatus  
Foundation April, 1950  
Establishment April, 1958

**Contact** International Division  
Hotline: +81-3-3254-8117 Fax: +81-3-3254-8123  
E-mail: [query@sksato.co.jp](mailto:query@sksato.co.jp)  
URL: <http://www.sksato.co.jp/english/>

**\*Head Office** 3, Nishi Fukudacho, Kanda, Chiyodaku, Tokyo 101-0037 Japan  
Tel: +81 (0) 3-3254-8111 Fax: 03-3254-8119

## \*Branches

Osaka 2-1-10, Uchihiracho, Chuoku, Osakashi, Osaka 540-0037 Japan  
Tel: 06-6944-0921 Fax: 06-6994-0926  
Sapporo 4-2-17, Kita-20-jou Nishi, Kitaku, Sapporoshi, Hokkaido 001-0020 Japan  
Tel: 011-758-0051 Fax: 011-758-0065  
Sendai 25-1, Nishigaoka, Muratacho, Shibatagun, Miyagi 989-1304 Japan  
Tel: 0224-83-4781 Fax: 0224-83-4770  
Nagoya 1-3-16, Osu, Nakaku, Nagoyashi, Aichi 460-0011 Japan  
Tel: 052-204-1234 Fax: 052-204-1123  
Toyama 5-2-3, Futakuchimachi, Toyamashi, Toyama 939-8211 Japan  
Tel: 076-494-3088 Fax: 076-494-3090  
Fukui 2-1506, Fuchi, Fukuishi, Fukui 918-8026 Japan  
Tel: 0776-35-7778 Fax: 0776-36-0170  
Fukuoka 4-18-26, Hakataekimae, Hakataku, Fukuokashi, Fukuoka 812-0011 Japan  
Tel: 092-451-1685 Fax: 092-451-1688

## \*Factories

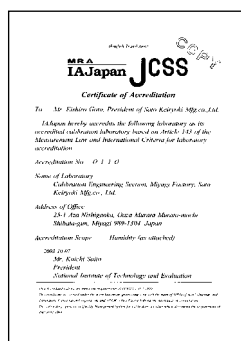
Tokyo 2-9-18, Minami-Tokiwadai, Itabashiku, Tokyo 174-0072 Japan  
Tel: 03-3958-2321 Fax: 03-3958-2325  
Miyagi 25-1, Nishigaoka, Muratacho, Shibatagun, Miyagi 989-1304 Japan  
Tel: 0224-83-2110 Fax: 0224-83-4770

## \*Delivery Center / Warehouse

1-3-38, Sakaecho, Asakashi, Saitama 351-0012 Japan  
Tel: 048-465-5977 Fax: 048-465-7929

The certificates we have been registered.

JCSS



ISO9001



ISO14001



# TABLE OF CONTENTS

| <b>Glass Thermometers</b>   | PAGE  | <b>Mechanical Thermometers</b>                                    | PAGE  |
|---|-------|---|-------|
| Standard Thermometers.....  | 3     | Bimetal Thermometers (Stock Items) .....                          | 32-33 |
| Etched-Stem Thermometers .....                                    | 3     | Bimetal Thermometers for Asphalt and Grain .....                  | 34    |
| <b>Electric Instruments</b>                                       |       | Surface (Magnetic) Bimetal Thermometer.....                       | 34    |
| Dataloggers (SK-L200II Series) .....                              | 4-5   | Pocket Bimetal Thermometers.....                                  | 34    |
| Optional Probes for Dataloggers .....                             | 6     | Bimetal Thermometers (For Ordering).....                          | 35    |
| Digital Thermohygrometers (SK-110TRHII Series) .....              | 7     | Standard Specifications of Bimetal Thermometers .....             | 36    |
| Multiple Measuring System .....                                   | 8     | Standard Specifications of Remote Sensing Dial Thermometers... 37 |       |
| Temp./Humi. Transmitters (SK-RHC Series) .....                    | 9     | Remote Sensing Dial Thermometers (Stock Items) .....              | 38    |
| Paperless Recorder.....   | 9     | Remote Sensing Dial Thermometers (For Ordering).....              | 39    |
| Waterproof Digital Thermometers (SK-250WPPII Series) .....        | 10    | Rigid Stem Type Dial Thermometers (Oil-Filled Type) .....         | 40    |
| Optional Probes for SK-250WPPII Series.....                       | 11    | Rigid Stem Type Dial Thermometers .....                           | 40    |
| Waterproof Digital Thermometer (SK-1250MCIII $\alpha$ ) .....     | 12    | Electric Contact Dial Thermometers.....                           | 40    |
| Optional Probes for SK-1250MCIII $\alpha$ .....                   | 13    | Micro Switching Contact Dial Thermometers .....                   | 40    |
| Jumbo Digital Thermometers and Optional Probes.....               | 14    | SBW-130MS/ SBW-130MSB   |       |
| Mini Infrared Thermometer .....                                   | 15    | Ultra Low Temperature Recorder.....                               | 41    |
| SK-8100 Series Marker Infrared Thermometers .....                 | 16-17 | Remote Temperature Recorders (1 point/2 points).....              | 41    |
| <b>Weather Instruments</b>  |       | Standard Specifications for Dial Thermometers                     |       |
| Thermohygrographs (NSII-Q/NSII-S) .....                           | 18    | w/ Electric Contacts.....   | 42    |
| Axial AC Fan.....   | 18    | Buzzer Box .....  | 42    |
| Thermograph .....   | 19    | Relay Unit.....   | 42    |
| Hygrograph .....  | 19    | Switch Mode for Alarm .....                                       | 43    |
| Barograph.....  | 19    | Switch Mode for Control .....                                     | 43    |
| Long Term Thermohygrograph .....                                  | 20    | <b>Other Items</b>  |       |
| Mini Thermohygrographs.....                                       | 20    | Digital pH Meters .....   | 44    |
| Remote Thermographs.....  | 21    | Refractometers .....  | 45    |
| Humidity Constant Chamber .....                                   | 21    | Index.....  | 46-47 |
| Consumables (exclusive charts and accessories for recorders) .... | 22    | Information.....  | 48    |
| Hygrometers .....   | 23    | Warranty Policy.....  | 48    |
| Thermohygrometers .....   | 23    |   |       |
| Assmann Type Psychrometer .....                                   | 24    |   |       |
| Psychrometers.....  | 25    |   |       |
| Min-Max Thermometers .....  | 25    |   |       |
| Aneroid Barometer .....   | 26    |   |       |
| Barometer with Digital Thermometer .....                          | 26    |   |       |
| Fortin Barometer.....   | 26    |   |       |
| Air Velocity Transmitter .....                                    | 27    |   |       |
| Hot Wire Anemometers .....  | 27    |   |       |
| Digital Wind Speed and Direction Indicator .....                  | 28    |   |       |
| Digital Micro Wind Speed and Direction Indicator .....            | 28    |   |       |
| Digital Anemometer with Alarm .....                               | 29    |   |       |
| Hand Held Anemometer.....   | 29    |   |       |
| Hand Held Combination Anemometer.....                             | 29    |   |       |
| Wind Speed and Direction Indicator .....                          | 30    |   |       |
| 3-Cup Anemometers .....   | 30    |   |       |
| 3-Cup Anemometers with Alarm .....                                | 30    |   |       |
| Digital Rain Gauge with Alarm .....                               | 31    |   |       |
| Rainfall Sensor and Event Recorder .....                          | 31    |   |       |


**No. 0022-38 STANDARD THERMOMETER SET  
(Set of 8 pcs. in a case)**

Used for calibration and test of all thermometers as stable and reliable reference. These thermometers can help you meet the documents dealt with ISO 9001 and traceability.

- \* Dual tubing with a scale plate enclosed.
- \* Mercury-filled thermometers with an ice-point determination
- \* All thermometers are 9 to 10mm in diameter and 400mm in length.
- \* Calibration certificate issued by JCSS is attached.  
(JCSS: Japan Calibration Service System)

| No. | Range        | Div.  | No. | Range        | Div.  |
|-----|--------------|-------|-----|--------------|-------|
| 0   | -50 to 0°C   | 0.1°C | 4   | 150 to 200°C | 0.1°C |
| 1   | 0 to 50°C    | 0.1°C | 5   | 200 to 250°C | 0.1°C |
| 2   | 50 to 100°C  | 0.1°C | 6   | 250 to 300°C | 0.1°C |
| 3   | 100 to 150°C | 0.1°C | 7   | 300 to 360°C | 0.1°C |

— Can be sold loose —

**No. 0022-08 STANDARD THERMOMETER SET  
(Set of 8 pcs. in a case)**

- same as the above, but with calibration certificate issued by manufacturer.


**No. 0021-10 STANDARD SET (Set of 8 pcs. in a case)**

- \* Dual tubing with a scale plate enclosed.
- \* Mercury-filled thermometers
- \* All thermometers are 6 to 7mm in diameter and 300mm in length.
- \* Calibration certificate issued by manufacturer is attached.

**No. 0020-10 STANDARD THERMOMETER SET  
(Set of 8 pcs. in a case)**

- same as the above, but etched-stem type glass tube thermometers.

**No. 0110 ETCHED-STEM THERMOMETER — Total immersion —**

- \* Mercury-filled thermometers and alcohol-filled ones are available.
- \* Scale is etched on the surface of the tube.

Alcohol thermometer

| Range      | Div. | Length |
|------------|------|--------|
| 0 to 100°C | 1°   | 300 mm |
| "          | 1/2  | "      |
| -20 to 105 | 1    | "      |
| -30 to 100 | "    | "      |
| -5 to 105  | "    | "      |
| 0 to 50    | "    | "      |
| "          | 1/2  | "      |
| 0 to 150   | 1    | "      |
| 0 to 200   | "    | "      |
| -5 to 35   | 1/5  | "      |
| -30 to 50  | 1    | "      |
| -50 to 50  | 1    | "      |
| -80 to 50  | "    | "      |
| -100 to 50 | "    | "      |

Mercury thermometer

| Range       | Div. | Length    |
|-------------|------|-----------|
| -30 to 50°C | 1°   | 300 mm    |
| -20 to 50   | 1/2  | "         |
| "           | 1/5  | "         |
| "           | 1/10 | "         |
| -5 to 35    | 1/5  | "         |
| "           | 1/10 | "         |
| 0 to 100    | 1    | "         |
| "           | 1/2  | "         |
| "           | 1/5  | "         |
| "           | 1/10 | 450 • 600 |
| -20 to 100  | 1    | 300       |
| 0 to 50     | "    | "         |
| "           | 1/2  | "         |
| "           | 1/5  | "         |
| "           | 1/10 | "         |
| 0 to 150    | 1    | "         |
| 0 to 200    | "    | "         |
| 0 to 300    | "    | "         |
| 0 to 360    | "    | 330       |
| 0 to 400    | "    | "         |
| 0 to 500    | 5    | 300       |
| 0 to 500    | 2    | 450       |
| 0 to 600    | 2    | "         |
| 0 to 624    | 2    | "         |

1/2, 1/5 and 1/10 are precision grade.



No. 8161-00 DATALOGGER MODEL SK-L200TII (temperature measurement type)

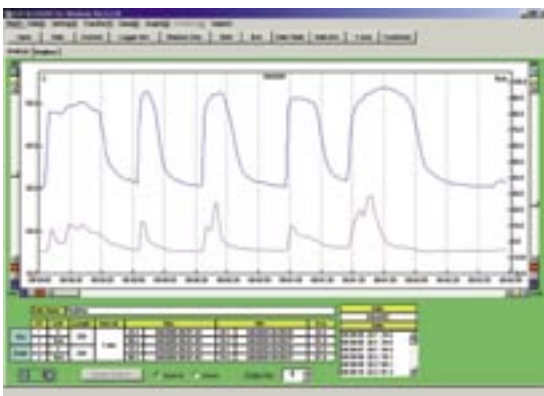
No. 8175-00 DATALOGGER MODEL SK-L200THII $\alpha$  (temperature and humidity measurement type)



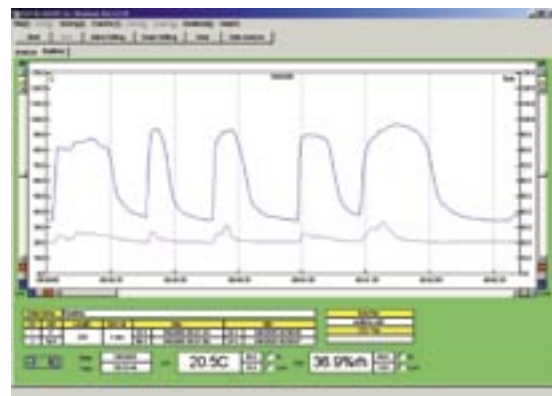
## FEATURES

- Memory capacity is 8100 lines of data per channel.  
(It is possible to store the data for about 506 days with logging interval of 90 minutes.)
- The method of storing data can be selectable among four logging options.  
Once, Repeatedly, Ends at, By pages
- The software for data analysis and real-time transmission is attached as standard accessories.
- The date and time to start logging automatically can be specified by setting the preset start.
- The measurement data can be transmitted in real-time to a personal computer.
- USB transmission is adopted.
- The upper and lower thresholds for warning can be set. When the temperature or humidity threshold is triggered, the alarm mark (Hi or Lo) will light.
- Probes are interchangeably used with main units.
- The storage memory can be varified with the memory indicator.
- The logging interval can be selected from 14 options: 1 sec, 2 sec, 5 sec, 10 sec, 15 sec, 30 sec, 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, 60 min and 90 min.
- When the power is turned off, data stored in the EEPROM memory is retained.
- The datalogger ID can be set. This is useful to identify multiple dataloggers.
- By using data analysis software attached, acquired data can be evaluated easily and quickly, and also evaluated by using commercial spreadsheet software supporting the "CSV" extension such as Microsoft Excel.

## Graph Displays on the PC screen



By Data Analysis Software



By Real-Time Transmission Software



## SPECIFICATIONS

## 1. Main Units



| Cat. No.             | 8161-00  | 8175-00   |
|----------------------|--|---|
| <b>Model</b>         | <b>SK-L200T II<br/>(for temperature)</b>   | <b>SK-L200TH II<math>\alpha</math><br/>(for temperature and humidity)</b> |
| Display range        | -45 to 205.0°C<br>(depending on a probe connected)   | -15 to 65.0°C<br>(depending on a probe connected)                         |
|                      | —  | 10 to 99.9%RH   |
| Resolution (Temp.)   | 0.1°C (-9.9 to 205.0°C)<br>1°C (-10°C or less)   | 0.1°C (-9.9 to 65.0°C)<br>1°C (-10°C or less)                             |
| Resolution (Humi.)   | —  | 0.1%RH (15.0 to 99.9%RH)<br>1%RH (15.0%RH or less)                        |
| Accuracy (Temp.)     | $\pm(0.1^{\circ}\text{C} + 1 \text{ digit})$   | $\pm(0.1^{\circ}\text{C} + 1 \text{ digit})$                              |
| Accuracy (Humi.)     | —  | $\pm(0.1\%RH + 1 \text{ digit})$  |
| Applicable probes    | SK-LT II series probes   | SK-LTH II $\alpha$ series probes  |
| Sampling (display)   | About 1 sec.   |   |
| Display functions    | TIME (display time), INT (logging interval) REC (during logging), RES (during preset standby), OUT (during real-time transmission), LCD bars (used memory)<br>CALL (call for the current measurement data during logging)<br>Current temperature, Current humidity, Current date and time, low battery mark, Temp. upper limit (Hi), Temp. lower limit (Lo), Humi. upper limit (Hi), Humi. lower limit (Lo), Temp. alarm ON (Alarm), Humi. alarm ON (Alarm), logging option, setting value of upper and lower limits, error message, ID number |   |
| Memory capacity      | Up to 8100 lines of data depending on the logging option<br>(four logging options: Once, Repeatedly, Ends at, By pages)  |   |
| Logging intervals    | 1 sec. 2 sec. 5 sec. 10 sec. 15 sec. 30 sec.<br>1 min. 2 min. 5 min. 10 min. 15 min. 30 min. 60 min. 90 min.   |   |
| Communication        | USB  |   |
| Operation ambient    | -10 to 60°C, no condensing   |   |
| Storage ambient      | 0 to 50°C  |   |
| Power requirement    | "AAA" size alkaline battery x 2  |   |
| Battery life         | <ul style="list-style-type: none"> <li>· Under continuous measurement mode : more than 500 hours</li> <li>· Under logging mode: possible to log 8100 data with every logging interval (ex.: about 506 days with logging interval of 90 minutes.)</li> </ul>  |   |
| Dimensions           | 100(W) x 73(H) x 22(D) mm  |   |
| Weight               | About 123g (without batteries)   |   |
| Materials            | ABS resin  |   |
| Standard accessories | CD-ROM (data analysis software, real-time software), USB cable (1.5 m), USB port cap (factory set), hand strap, "AAA" size alkaline battery x 2 (Probe is not included in the standard accessories)  |   |

## 2. Standard Probes



| Cat. No.         | 8162-00  | 8163-00   | 8176-00  | 8177-00   | 8178-00   |
|------------------|--|---|--|---|---|
| <b>Model</b>     | <b>SK-LT II-1</b><br>Plug-in type                  | <b>SK-LT II-2</b><br>w/ sensor cord   | <b>SK-LTH II-1</b><br>Plug-in type   | <b>SK-LTH II-2</b><br>w/ sensor cord  | <b>SK-LTH II-3</b><br>Stick type w/ sensor cord |
| Sensor (Temp.)   | Thermistor   |   | Thermistor   |   |   |
| (Humi.)          | —  |   | High Polymeric Resistance change type  |   |   |
| Measuring range  | −10 to 60.0°C                                      | −40 to 105.0°C  | −10 to 60.0°C  |   |   |
|                  | —  | —   | 20.0 to 98.0%RH (at 23°C)  |   |   |
| Accuracy (Temp.) | ±0.5°C (20.0 to 30.0°C)<br>±1°C (other than above) | ±0.5°C (15.0 to 35.0°C)<br>±2°C (lower than −10°C)<br>±1°C (other than above) | ±0.5°C (20.0 to 30.0°C)<br>±1°C (other than above)   | ±0.5°C (15.0 to 35.0°C)<br>±1°C (other than above)  |   |
| Accuracy (Humi.) | —  | —   | ±3%RH (20.0 to 30.0°C, 30 to 90%RH)<br>±7%RH (lower than 10.0°C, higher than 50.0°C)<br>±5%RH (other than above) | ±3%RH (15.0 to 35.0°C, 30 to 90%RH)<br>±7%RH (lower than 0°C, higher than 50.0°C)<br>±5%RH (other than above) |   |
| Dimensions       | 25W x 70H x 20D mm                                 | Sensing part:<br>(tip) Ø5 x L20 mm<br>Cord Length: 1.5 m                      | 25W x 70H x 20D mm   | Sensing part:<br>18W x 51H x 10D mm<br>Cord Length: 1.5 m   | Ø8 x L35 mm<br>Cord Length: 1.5 m               |
| Weight           | About 13g  | About 43g   | About 15g  | About 65g   | About 69g                                       |
| Materials        | ABS resin  | ABS resin, PVC resin  | ABS resin  | ABS resin, PVC resin  | ABS resin, PVC resin, Polyacetal resin          |
| Accessories      | Test Result  | Test Result   | Test Result  | Test Result   | Test Result                                     |

## 3. Optional Probes for SK-L200T II Datalogger (Temperature measurement)



Sensing stem: Ø3 x 150 mm (w/ grip)

**Model SK-LT II-3 Penetration type**

– Water protection level IP X5 –  
Measuring range : −40 to 105.0°C  
Cord length : 3.75 m

**Model SK-LT II-4 Penetration type**

– Water protection level IP X5 –  
Measuring range : −40 to 105.0°C  
Cord length : 5.0 m

**Model SK-LT II-7 for High temperature**

– Water protection level IP X5 –  
Measuring range : −40 to 200.0°C  
Sensing stem : Ø3 x 150 mm (w/ grip)  
Cord length : 1.5 m

**Model SK-LT II-8 for High temperature**

– Water protection level IP X5 –  
Measuring range : −40 to 200.0°C  
Sensing stem : Ø3 x 400 mm (w/ grip)  
Cord length : 1.5 m



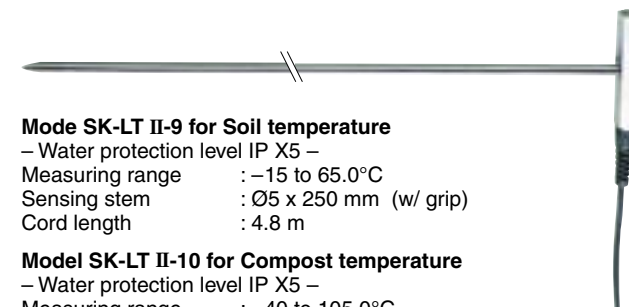
Sensing tip: Ø5 x 20 mm

**Model SK-LT II-5 Cylindrical tip type**

– Water protection level IP X7 –  
Measuring range : −40 to 105.0°C  
Cord length : 3.75 m

**Model SK-LT II-6 Cylindrical tip type**

– Water protection level IP X7 –  
Measuring range : −40 to 105.0°C  
Cord length : 5.0 m

**Model SK-LT II-9 for Soil temperature**

– Water protection level IP X5 –  
Measuring range : −15 to 65.0°C  
Sensing stem : Ø5 x 250 mm (w/ grip)  
Cord length : 4.8 m

**Model SK-LT II-10 for Compost temperature**

– Water protection level IP X5 –  
Measuring range : −40 to 105.0°C  
Sensing stem : Ø8 x 900 mm (w/ grip)  
Cord length : 4 m

## SK-110TRHII SERIES DIGITAL THERMOHYGROMETERS

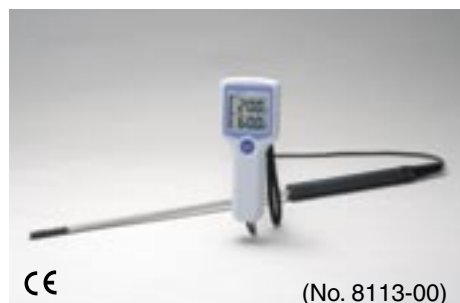


(No. 8111-00)



(No. 8112-00)

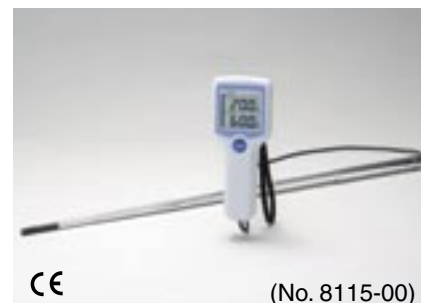
NB: The main body and the probe are unified.



(No. 8113-00)



(No. 8114-00)



(No. 8115-00)

## SPECIFICATIONS

| Cat. No.             |                | 8111-00   | 8112-00                    | 8113-00      | 8114-00       | 8115-00                        |
|----------------------|----------------|---|----------------------------|--------------|---------------|--------------------------------|
| Type                 |                | Type 1  | Type 2                     | Type 3       | Type 4        | Type 5                         |
| Measuring range      | (temp.)        | -10.0 to 60.0°C   |                            |              |               |                                |
|                      | (humi.)        | 20.0 to 98.0% (at 23°C)   |                            |              |               |                                |
| Display range        | (temp.)        | -15.0 to 65.0°C   |                            |              |               |                                |
|                      | (humi.)        | 0 to 99.9%  |                            |              |               |                                |
| Resolution           | (temp.)        | 0.1°C (but at -10°C or lower: 1°C)  |                            |              |               |                                |
|                      | (humi.)        | 0.1% (but at lower than 15%: 1%)  |                            |              |               |                                |
| Accuracy             | (temp.)        | ±0.5°C (15.0 to 35.0°C)<br>±1°C (other than above)  |                            |              |               |                                |
|                      | (humi.)        | ±3%RH (30 to 90%, 15.0 to 35.0°C)<br>±7%RH (lower than 0°C, higher than 50.0°C)<br>±5%RH (other than above) |                            |              |               |                                |
|                      |                |   |                            |              |               |                                |
| Sensor               | (temp.)        | Thermistor  |                            |              |               |                                |
|                      | (humi.)        | High polymeric resistance change type   |                            |              |               |                                |
| Operating ambient    |                | 0 to 50°C, lower than 80%RH, no condensing  |                            |              |               |                                |
| (Probe)              |                | -10 to 60°C, no condensing  |                            |              |               |                                |
| Sampling time        |                | About 1 sec.  |                            |              |               |                                |
| Display functions    |                | LCD dual display (temperature and RH are displayed simultaneously) <b>B</b> insufficient voltage of battery |                            |              |               |                                |
| Power requirement    |                | 3VDC (2 "AAA" size alkaline batteries)  |                            |              |               |                                |
| Battery life         |                | About 600 hours continuous (w/ alkaline batteries at normal temperature)                                    |                            |              |               |                                |
| Dimensions           | Main body      | 70 (W) x 168 (H) x 26.5 (D) mm (Material: ABS resin)  |                            |              |               |                                |
|                      | Probe(Grip)    | Ø20 x L224 mm   |                            |              |               | Ø(8 to 18.7) x L(130 to 885)mm |
|                      | (Sensing part) | —   | Ø9 x L55 mm + Ø8 x L294 mm | Ø8 x L338 mm | Ø6 x L1000 mm | —                              |
|                      | (Cord)         | Ø4 x L1340 mm   | Ø4 x L960 mm               | Ø4 x L960 mm | Ø4 x L1340 mm | Ø4 x L(600 to 1350)mm          |
| Weight (approx.)     |                | 200 g   | 270 g                      | 270 g        | 220 g         | 250 g                          |
| Standard accessories |                | Test result, hand strap, "AAA" size alkaline battery x 2, vinyl case  |                            |              |               |                                |



## No. 7435-00 MULTIPLE MEASURING SYSTEM FOR TEMPERATURE AND HUMIDITY MODEL SK-5RAD-SP



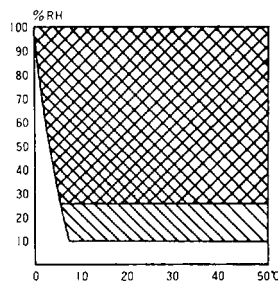
SK-5RAD-SP

## FEATURES

- Easy to read by high brightness digital display
- Assure high accuracy in compact body
- Eliminate an aging thanks to Pt 100 ohm sensors
- With error message display functions avoiding possible accident and mis-operation
- Alarm message "L" is displayed in case of insufficient voltage
- High accurate sensors ensure accuracy within 0.2%  $\pm$ 1 digit

## PRINCIPLE OF MEASUREMENT

This model employs 'DRY AND WET BULB METHOD' which has been so called as most stable method for measurement of humidity. The R/V converter inside detects the temperature measured by two Pt 100 ohm sensors and then the data is processed by the micro-computer installed inside so that high accurate relative humidity, absolute humidity and dew point are obtained.



\* Measuring range

- ▣ part and ▤ part show the measuring range of SK-5RAD-SP.
- ▤ part shows the range can be measured for continuous long time.
- ▣ part shows the range can be measured for continuous short time.

## SPECIFICATIONS

| Model                           | No. 7435-00 SK-5RAD-SP   |                            |   |  |                            |
|---------------------------------|--|----------------------------|---|--|----------------------------|
| Element                         | Dry bulb temperature   | Wet bulb temperature       | Relative humidity                       | Dew point temperature                      | Absolute humidity          |
| Measuring range                 | 0 to 50.0°C  | 0 to 50.0°C                | —                                       | —  | —                          |
| Operating range                 | —  | —                          | 0 to 99.9%                              | -40 to 50.0°C                              | 0 to 83 g/m <sup>3</sup>   |
| Display                         | 7 segment red LED 3 digits   | 7 segment red LED 3 digits | 7 segment red LED 3 digits              | 7 segment red LED 3 digits                 | 7 segment red LED 2 digits |
| Resolution                      | 0.1°C  | 0.1°C                      | 0.1%                                    | -40 to -10°C : 1°C<br>-9.9 to 50°C : 0.1°C | 1 g/m <sup>3</sup>         |
| Accuracy for measurement        | within $\pm$ 0.2% F.S.   | within $\pm$ 0.2% F.S.     | —                                       | —  | —                          |
| Accuracy for operation          | —  | —                          | within $\pm$ 0.01%                      | within $\pm$ 0.01%                         | within $\pm$ 0.01%         |
| Accuracy for indication         | 0.2% F.S. $\pm$ 1 digit  | 0.2% F.S. $\pm$ 1 digit    | 1% $\pm$ 1 digit                        | 0.1°C $\pm$ 1 digit                        | within 1%                  |
| Sampling period for measurement | about 4 sec.   |                            |   |  |                            |
| Detecting element               | Pt 100   | Pt 100                     | —                                       | —  | —                          |
| Output                          | 0 to 50°C / 0 to 1 VDC   | —                          | 0 to 100% / 0 to 1VDC                   | —  | —                          |
| Output impedance                | 500 $\Omega$   | —                          | 500 $\Omega$                            | —  | —                          |
| Airflow speed                   | more than 3 m/s at outlet of airflow   |                            | —                                       | —  | —                          |
| Ambient                         | Temperature: 0 to 50°C (wet bulb shall not frozen) Humidity: no condensing                           |                            |   |  |                            |
| Power requirements              | 100 VAC $\pm$ 10% 50/60 Hz   |                            |   |  |                            |
| Power consumption               | 100 VAC 0.1A   |                            |   |  |                            |
| Outer dimensions                | Indicator: 311 (W) x 192.5 (H) x 144 (D) mm<br>Detector: 80 (W) x 264 (H) x 110 (D) mm               |                            |   |  |                            |
| Weight                          | Indicator: about 4.5 kg  |                            | Detector: about 1.5 kg (including cord) |  |                            |
| Standard accessories            | 2 m power cord: 1 pc. Wicks: 20 pcs. Remote cord: 10 m (up to 50 m at option)<br>Water supply bottle |                            |   |  |                            |

## No. 8920 SK-RHC SERIES TEMPERATURE/HUMIDITY TRANSMITTERS

## FEATURES

- Output signals from voltage, electric current and RS-485 are selectable at the time of purchase.
- Two types of external probe are available, that can be interchangeably used with main units.



Main unit with SK-RHCS-1 probe



Main unit with SK-RHCS-2 probe

## SPECIFICATIONS

|                   |  |   |
|-------------------|--|---|
| Measuring range   | Temperature: -10 to 60°C   | Humidity: 20.0 to 95.0%RH                 |
| Accuracy          | Temperature: ±0.5°C  | Humidity: ±3%RH (30 to 90%RH, 20 to 30°C) |
| Output signal     | Voltage: 0 to 1VDC, 0 to 100mVDC, Electric current: 4 to 20mA, Serial : RS-485                                 |   |
| Power requirement | 12 to 24VDC or optional AC adapter (9VDC)  |   |
| Function          | Upper/lower limit output (No voltage: 2 position control: ON-OFF)<br>Switchable sampling time (1 sec./10 sec.) |   |
| Dimensions        | 118(W) x 100(H) x 42(D) mm   |   |
| Weight            | 220g   |   |

NB: ※ Select the output signal at ordering. ※ Probes are sold separately.

## OPTIONAL PROBES

No. 8921-00 PLUG-IN TYPE  
MODEL SK-RHCS-1

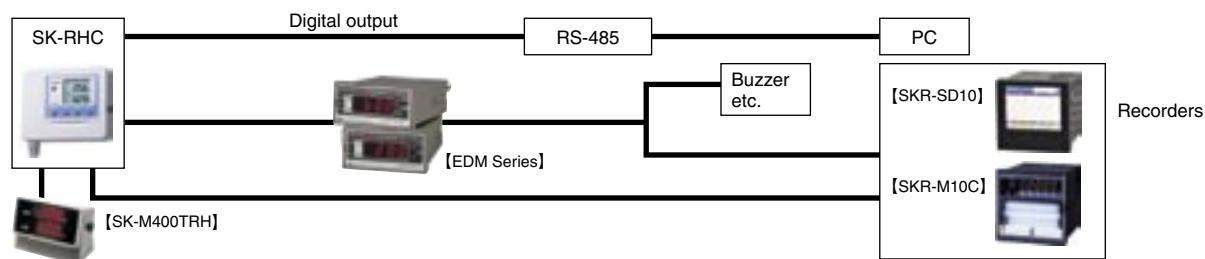
Dimensions: 29(W) x 121(H) x 24(D)mm  
Weight: 42g

No. 8922-00 WITH SENSOR CORD TYPE  
MODEL SK-RHCS-2

Connector: 29(W) x 121(H) x 24(D)mm  
Sensing part: Ø19 x 118.5(L)mm  
Cord length: 5m  
Weight: 228g



## Application Diagram



## No. 8098-03 PAPERLESS RECORDER 3 CHANNEL TYPE MODEL SKR-SD10-03

## SPECIFICATIONS

|                   |   |
|-------------------|---|
| Input signal      | DC voltage: ±10 mV, 0 to 20 mV, 0 to 50 mV, ±0.2 V, ±1 V, ±10 V, 0 to 5V<br>Thermocouple: K, E, J, T, C, N, PLII, U, L, R, S, B, PR40-20, Au-Fe<br>RTD: Pt 100 Ω, JPt 100 Ω<br>DC current: 4 to 20 mA (External shunt resistance) |
| Recording         | Internal memory about 100 MB<br>Recording medium SD card (max. 2 GB) SDHC card (max. 32 GB)   |
| Communications    | Ethernet 10 BASE-T, HTTP server, FTP server and Modbus/TCP protocol   |
| Power requirement | 100V to 240V AC, 50/60 Hz   |
| Dimensions        | Panel-mount: 150 (W) x 144 (H) x 181.8 (D) mm   |
| Weight            | about 0.9 kg  |



**SK-250WP II SERIES WATERPROOF DIGITAL THERMOMETERS**

No. 8062-00 MODEL SK-250WP II-N FOR GENERAL PURPOSE

No. 8064-00 MODEL SK-250WP II-T WITH TIMER FUNCTION

No. 8066-00 MODEL SK-250WP II-R WITH MEMORY FUNCTION

No. 8068-00 MODEL SK-250WP II-K FOR SIMPLE OPERATION

**MUTUAL FEATURES**

- Main units are waterproof construction conforming to **IP X6** rated — protected against strong jets of water. — limited ingress permitted. They will not be affected in function at the touch of wet hands or with splash water.
- Measured value can be held. (HOLD function)
- Power will automatically turn off after 60 minutes. (AUTO POWER-OFF function)

**MUTUAL SPECIFICATIONS**

| Model                | SK-250WP II Series Waterproof Digital Thermometers  |
|----------------------|---|
| Display range        | –55 to 305°C<br>(Measuring range is different depending on the probe connected.)            |
| Accuracy (body)      | ±(0.1°C + 1 digit) at – 9.9 to 199.9°C<br>±(1°C + 1 digit) at other than above              |
| Resolution           | 0.1°C at –9.9 to 199.9°C<br>1°C at other than above   |
| Waterproof property  | conforming to JIS C 0920 Protection class 6 (equivalent to IP X6).                          |
| Operation ambient    | 0 to 50°C   |
| Display sampling     | about 1 sec.  |
| Probes connected     | SWP II series probes (Thermistor)   |
| Display functions    | HOLD: data hold, Auto Power-off, Insufficient voltage of battery                            |
| Power requirements   | 3VDC ("AAA" (LR03) size battery x 2)  |
| Battery life         | about 1000 hours continuous (by using alkaline batteries)                                   |
| Dimensions           | 71 (W) x 170 (H) x 36 (D) mm  |
| Weight               | approx. 0.145 kg (including batteries)  |
| Materials            | ABS resin   |
| Standard accessories | SWP II-01M probe with test result, hand strap, vinyl cover, "AAA" size alkaline battery x 2 |

## FUNCTIONS OF EACH MODEL

| Cat. No.  | 8068-00             | 8062-00       | 8064-00       | 8066-00             |
|-----------|---------------------|---------------|---------------|---------------------|
| Model     | SK-250WP II-K       | SK-250WP II-N | SK-250WP II-T | SK-250WP II-R       |
| Functions | Data Hold           |               |               |                     |
|           | Auto Power-Off      |               |               |                     |
|           | Min/Max Memory Data |               |               |                     |
|           |                     |               |               | Clock Display (24h) |
|           |                     |               |               | Timer Function      |
|           |                     |               |               | Upper/Lower Limits  |
|           |                     |               |               | Data Memory         |

## SWP II SERIES OPTIONAL PROBES

**No. 8071-00 SWP II-01M Standard probe**

Range: -40 to 250°C (waterproof)  
 Ø3 x L100mm (Pointed end) w/1m cord

**No. 8072-00 SWP II-02M High sensitive probe**

Range: -15 to 250°C (waterproof)  
 Ø3 x L100mm (Pointed end) w/1m cord

**No. 8073-00 SWP II-03 Surface temperature probe**

Range: -15 to 200°C  
 Sensing part: Ø9mm Grip: Ø12 x L110mm w/1m cord

**No. 8074-00 SWP II-04M Penetration probe**

Range: -15 to 250°C (waterproof)  
 Ø2 x L150mm (Pointed end) w/1m cord

**No. 8075-00 SWP II-05M Long stem probe**

Range: -15 to 250°C (waterproof)  
 Ø3 x L400mm (Round end) w/1m cord

**No. 8076-00 SWP II-06M Tapered stem probe**

Range: -40 to 250°C (waterproof)  
 Ø2 x L45 + Ø3 x L55mm (Pointed end) w/1m cord

## STAINLESS GRIP TYPE

**No. 8077-10 SWPII-07 Standard probe**

Range: -40 to 250°C (waterproof)  
 Ø3 x L100mm (Pointed end) w/1m cord

**No. 8077-20 SWPII-08 Long stem probe**

Range: -15 to 250°C (waterproof)  
 Ø3 x L400mm (Round end) w/1m cord

**No. 8077-30 SWPII-09 General purpose probe**

Range: -40 to 250°C (waterproof)  
 Ø3 x L200mm (Pointed end) w/1m cord

**No. 8077-40 SWPII-10 Penetration probe**

Range: -15 to 250°C (waterproof)  
 Ø2 x L150mm (Pointed end) w/1m cord

## SPECIFICATIONS FOR SWP II SERIES OPTIONAL PROBES

| Model               | SWPII-01M                              | SWPII-02M | SWPII-03              | SWPII-04M | SWPII-05M | SWPII-06M | SWPII-07 | SWPII-08 | SWPII-09 | SWPII-10 |
|---------------------|--|-----------|-----------------------|-----------|-----------|-----------|----------|----------|----------|----------|
| Sensor              | Thermistor                             |           |                       |           |           |           |          |          |          |          |
| Waterproof property | IP X7                                  | -----     |                       |           |           |           |          | IP X7    |          |          |
| Materials           | SUS304                                 |           | Copper,<br>Ni plating | SUS304    |           | SUS316    |          | SUS304   |          |          |
|                     | Polybutylene Terephthalate (PBT) resin |           |                       |           |           |           |          | SUS303   |          |          |
| Weight              | 100g                                   |           | 50g                   | 99g       | 105g      | 99g       | 140g     | 145g     | 143g     | 139g     |

No. 8017-00 WATERPROOF DIGITAL THERMOMETER MODEL SK-1250MCIII $\alpha$ 

## FEATURES

- Measured data can be stored in memory with a simple operation.
  - \* The memory can store up to 150 data in the manual mode.
  - \* The memory can store up to 100 data in the automatic mode.
- Print function
  - \* Temperature data stored in memory can be printed on an optional printer.
- Setting of upper and lower limits is available.
  - \* If the temperature reaches the set upper limit or the set lower limit, the warning buzzer sounds and "V" flashes on the panel.
- Waterproof
  - \* **IP X4** rated (No adverse effects of water splashes from any direction.)
- Both inputs of Thermistor and K Thermocouple are available only from us.
- Various kinds of optional probes for a wide variety of applications.
- A large LCD with multi display.
- A soft pouch with strap is provided as a standard accessory.

## SPECIFICATIONS

| Model                 | Waterproof Digital Thermometer SK-1250MC III $\alpha$   |  |
|-----------------------|---|--|
| Measuring range       | Thermistor  | : -30.0 to 150.0°C   |
|                       | K thermocouple  | : -99.9 to 1250°C  |
| Resolution            | Thermistor  | : 0.1°C at -30.0 to 150.0°C  |
|                       | K Thermocouple  | : 0.1°C at -99.9 to 199.9°C  |
|                       |   | : 1°C at 200°C to 1250°C   |
| Accuracy              | Thermistor  | Main unit : $\pm 0.2^\circ\text{C}$<br>Sensor : $\pm(0.1\% \text{ rdg} + 0.3^\circ\text{C})$ at 0.0 to 100.0°C<br>: $\pm(0.2\% \text{ rdg} + 0.4^\circ\text{C})$ at -30.0 to -0.1°C, 100.1 to 150.0°C  |
|                       | K Thermocouple  | Main unit : $\pm(0.1\% \text{ rdg} + 0.3^\circ\text{C})$ at 0.0 to 199.9°C<br>: $\pm 0.5^\circ\text{C}$ at -99.9 to -0.1°C<br>: $\pm(0.2\% \text{ rdg} + 1^\circ\text{C})$ at 200 to 1250°C<br>Sensor : $\pm 1.5^\circ\text{C}$ at -40.0 to 375°C<br>(JIS class 1) : $\pm 0.004(t)$ at 375 to 1000°C |
| Operational functions | MAX: maximum memory data, MIN: minimum memory data, HOLD: data hold, ALARM: upper and lower limit setting, REL: measurement of variation, TIME: time settings, REC/PRINT: record and print function |  |
| Water proof property  | Conforming to <b>IP X4</b> rated  |  |
| Sampling time         | 1 sec.  |  |
| Sensor                | Thermistor / K Thermocouple   |  |
| Power requirement     | 6 VDC ("AAA" size battery x 4)  |  |
| Battery life          | About 180 hours continuous with manganese batteries<br>About 280 hours continuous with alkaline batteries   |  |
| Materials             | Main unit   | : ABS resin  |
|                       | Probe   | : Sensing stem Stainless (SUS304)<br>Handle Polyphenylene Oxide  |
| Dimensions            | Main unit: 66 (W) x 175 (H) x 25 (D) mm   |  |
| Weight                | Approx. 200 g (main body including batteries)   |  |
| Standard accessories  | Standard probe, soft pouch with strap, "AAA" size manganese battery x 4   |  |

## No. 8009-50 OPTIONAL PRINTER MODEL DPU-414

By connecting the optional printer with the SK-1250MCIII $\alpha$  via an exclusive cable, the data stored in memory can be printed out by simple key operation.

## SPECIFICATIONS

|                      |  |
|----------------------|--|
| Power requirements   | : 100 VAC using AC adapter or built-in battery             |
| Ambient temperature  | : 0 to 40°C  |
| Dimensions           | : 160 (W) x 66.5 (H) x 170 (D) mm                          |
| Weight               | : Approx. 0.7 kg   |
| Standard accessories | : Printing paper 1 roll (about 28 m), exclusive cable 1pc. |





## THERMISTOR PROBES



**No. 8009-30 MC-T100 III Standard probe**  
Range: -30 to 150°C,  $\varnothing 2$  x 100mm w/1.1m cord  
Use for semisolid, viscosity and liquid.



**No. 8009-34 MC-T101W III Waterproof type penetration probe**  
Range: -30 to 150°C,  $\varnothing 3$  x 120mm w/1.1m cord  
Suitable for food industry



**No. 8009-38 MC-T102 III Water temperature probe**  
Range: -30 to 100°C,  $\varnothing 17$  x 115mm w/10m cord  
Water pressure resistance type



**No. 8009-32 MC-T101 III Penetration probe**  
Range: -30 to 150°C,  $\varnothing 3$  x 100mm w/1.1m cord  
Use for semisolid, viscosity and liquid.



**No. 8009-36 MC-T201 III Air temperature probe**  
Range: -30 to 150°C,  $\varnothing 5$  x 150mm w/1.1m cord  
Used in offices and warehouses.



**No. 8009-42 MC-T103 III Rectum temperature probe**  
Range: 30 to 50°C,  $\varnothing 3$  x 110mm w/1.1m cord

## K TYPE THERMOCOUPLE PROBES



**No. 8009-44 MC-K100 III Standard probe**  
Range: -100 to 300°C,  $\varnothing 2.3$  x 150mm w/1.1m cord  
Use for semisolid, viscosity and liquid.



**No. 8009-46 MC-K100W III Waterproof type penetration probe**  
Range: -100 to 300°C,  $\varnothing 2.3$  x 150mm w/1.1m cord  
Suitable for food industries



**No. 8009-48 MC-K101 III General purpose probe**  
Range: -100 to 700°C,  $\varnothing 3.2$  x 250mm w/1.1m cord



**No. 8009-51 MC-K102 III High temperature probe**  
Range: 0 to 800°C,  $\varnothing 4.8$  x 500mm w/1.1m cord



**No. 8009-52 MC-K103 III Asphalt temperature probe (w/ stainless steel grip)**  
Range: 0 to 300°C,  $\varnothing 5$  x 250mm w/1.1m stainless heat resistance cord



**No. 8009-54 MC-K104 III High sensitivity probe**  
Range: -100 to 300°C,  $\varnothing 1$  x 1000mm w/1.1m cord  
Use for viscosity and liquid.



**No. 8009-56 MC-K105 III Duplex wire probe (stainless steel shield wire)**  
Range: -100 to 300°C,  $\varnothing 0.65$  x 10m w/0.3m stainless heat resistance cord



**No. 8009-60 MC-K107 III High temperature probe (sensor: inconel alloy)**  
Range: 0 to 1000°C,  $\varnothing 4.8$  x 1000mm w/1.1m cord  
(Option : Range : 0 to 1250°C,  $\varnothing 8.0$  x 1000mm)



**No. 8009-71 MC-K301 III Surface temperature probe**  
Range: 0 to 600°C,  $\varnothing 25$  x 40mm w/1.1m cord



**No. 8009-75 MC-K305 III Surface temperature probe (flexible in 90°)**  
Range: -30 to 500°C, Sensing part  $\varnothing 17$  x 36mm w/1.1m cord



**No. 8009-77 MC-K307 III Surface temperature probe**  
Range: -30 to 400°C, Sensing part  $\varnothing 17$  x 25mm w/1.1m cord



**No. 8009-78 MC-K308 III L shape type surface temperature probe**  
Range: -30 to 600°C, Sensing part  $\varnothing 17$  x 30mm w/1.1m cord

\* Cord used is a super flexible type which resists oil and can be used in a low temperature state.

**JUMBO LCD DIGITAL THERMOMETERS**

No. 8014-03 MODEL SK-1110 1-CHANNEL TYPE

No. 8014-04 MODEL SK-1120 2-CHANNEL TYPE



CE



CE

**SPECIFICATIONS**

| Model                | SK-1110   | SK-1120   |
|----------------------|---|---|
| Cat. No.             | 8014-03   | 8014-04   |
| Number of channel    | 1 channel   | 2 channels  |
| Functions            | MAX/ MIN: maximum/ minimum memory data<br>AVG: average value<br>HOLD: data hold<br>OFFSET: offset value<br>Memory function (150 data)<br>Auto power-off (about 30 min.) | Automatic resolution switching function<br>MAX/ MIN: maximum/ minimum memory data<br>AVG: average value<br>HOLD: data hold, backlight<br>OFFSET: offset value<br>Auto power-off (about 30 min.)<br>Measurement of variation (CH1 – CH2) |
| Measuring range      | –50 to 1300°C (depending on the probe connected)  |   |
| Display range        | –73.3 to 1371.0°C   | –203.3 to 1368°C  |
| Accuracy (main body) | ±(0.5%rdg + 1) °C at –50 to 0.0°C<br>±(0.3%rdg + 1) °C at 0.1 to 1000°C<br>±(0.5%rdg + 1) °C at 1001 to 1300°C  |   |
| Resolution           | 0.1°C   | 0.1°C/1°C (w/ auto switching function)  |
| Sampling time        | About 0.5 sec.  |   |
| Sensor               | K Thermocouple, Connector: ANSI standard (yellow)   |   |
| Accuracy (sensor)    | K Thermocouple, class 1   |   |
| Operation ambient    | 0 to 50°C for temperature, less than 70%RH for humidity (no condensing)   |   |
| Power requirements   | 6 "AAA" manganese batteries   | 6 "AAA" alkaline batteries  |
| Battery life         | About 110 hours continuous with manganese batteries   | About 80 hours (Backlight OFF)<br>About 25 hours (Backlight ON)<br>* continuous with alkaline batteries   |
| Materials            | Main unit : ABS resin<br>Probe : PVC resin Sensor cable: PVC resin  |   |
| Dimensions           | Main unit : 72(W) x 151(H) x 35(D) mm   |   |
| Weight               | approx. 240g (including batteries)  | approx. 255g (including batteries)  |
| Standard accessories | "AAA" manganese battery x 6<br>Vinyl cover  | "AAA" alkaline battery x 6<br>Vinyl cover   |

\* Probes are not included in the standard accessories.

**OPTIONAL PROBES****No. 8014-30 SK-K010  
STANDARD PENETRATION PROBE**Range: –50 to 300°C Ø2.3 x 150mm (SUS316)  
Cord Length: approx. 75cm**No. 8014-31 SK-K020  
QUICK RESPONSE PROBE**Range: –50 to 300°C Ø1.0 x 100mm (SUS316)  
Cord Length: approx. 75cm  
t100 = within 5 sec.

\* Splash proof: SUS316 pipe and grip parts are confirming to JIS C 0920. (Protection Class 5)

\* Other 10 kinds of optional probes are available.

## No. 8260-00 MINI INFRARED THERMOMETER MODEL SK-8700

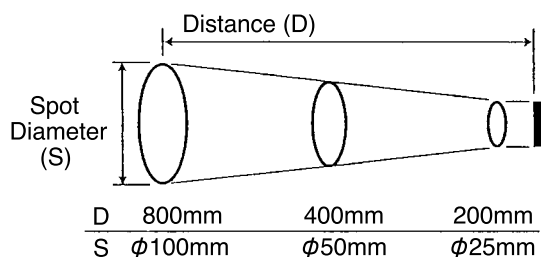


## APPLICATIONS

- Food Preparation
- Food Testing and Measurement
- Automobile
- Chemical and Petroleum
- Electronics
- Heating and Air Conditioning
- Plastics
- Textiles
- Road Construction

## DISTANCE TO SPOT SIZE RATIO (D:S)

The infrared thermometer focuses infrared energy from an object onto its detector at the rate. 8:1 distance to spot size ratio (D:S) means that the infrared thermometer will read 4 cm diameter area 32 cm away.



## SPECIFICATIONS

| Model                       | INFRARED THERMOMETER SK-8700   |
|-----------------------------|--|
| Measuring range             | -20 to 420°C/0 to 786°F  |
| Accuracy<br>(at 23°C±5°C)   | ±2°C (-20 to 100°C)<br>±2% Reading (101 to 420°C)<br>(calibrated by Black body at 0.95 emissivity)   |
| Resolution                  | 1°C/1°F  |
| Repeatability               | ±1°C/±1°F  |
| Emissivity                  | Fixed at 0.95  |
| Distance to spot size (D:S) | 8:1  |
| Detector                    | Thermopile   |
| Spectral response           | 6 to 14 μm   |
| Response time               | 0.5 second   |
| Laser sighting              | 1 point • Class II Laser (use less than 1 mW of power)   |
| Operating ambient           | Temperature: 0 to 50°C RH: less than 80% no condensing   |
| Storage ambient             | Temperature: -20 to 55°C RH: less than 90% no condensing   |
| Power requirement           | 9 VDC (one 6F22 battery)   |
| Power consumption           | Max. 40 mA (when Laser and Backlight ON)   |
| Battery life                | Approx. 5 hours (Laser & Backlight ON)<br>Approx. 10 hours (Laser ON & Backlight OFF)<br>Approx. 12 hours (Laser OFF & Backlight ON)<br>Approx. 50 hours (Laser & Backlight OFF) |
| Functions                   | °C/°F selectable<br>Backlight ON/OFF switch<br>Laser marker ON/OFF switch<br>Auto power-off  |
| Dimensions                  | 41.5 (W) x 65 (D) x 160 (H) mm   |
| Weight                      | Approx. 140 g (including battery)  |
| Standard accessories        | Vinyl cover, Lens cap, One 6F22 battery, Soft pouch, Hand strap  |

**SK-8100 SERIES INFRARED THERMOMETERS**

No. 8211-00 CIRCLE LASER MARKER INFRARED THERMOMETER MODEL SK-8110

No. 8212-00 CIRCLE LASER MARKER INFRARED THERMOMETER MODEL SK-8120

No. 8213-00 CIRCLE LASER MARKER INFRARED THERMOMETER MODEL SK-8130

No. 8214-00 DUAL POINT LASER INFRARED THERMOMETER MODEL SK-8140

**MUTUAL FEATURES OF SK-8100 SERIES INFRARED THERMOMETERS**

- Non-contact and clear laser marker for easy and accurate measurement
- Waterproof property of IPX4: No adverse effects of water splashes
- Auto power-off function for conserving battery power
- Auto backlight function when used in the dark
- Selectable °C and °F

**MODEL SK-8110**

This standard type infrared thermometer is favored for its simple operation.

- Circle laser marker
- Selectable emissivity among 0.95, 0.90 and 0.85
- Measuring range: -40 to 400°C
- Distance to spot size ratio about 15:1



CE

SK-8110

**MODEL SK-8120**

With upper and lower thresholds set, the alarm sounds with a buzzer when the reading exceeds either preset values.

- Circle laser marker
- Selectable emissivity among 0.95, 0.90 and 0.85
- Measuring range: -40 to 400°C
- Distance to spot size ratio about 15:1



CE

SK-8120

**MODEL SK-8130**

This model has PEAK/VALLEY function for the instrument to display the maximum and minimum readings during a measurement and also with alarm function.

- Circle laser marker
- Adjustable emissivity from 0.10 to 1.00 in 0.01 steps
- Wide measuring range: -50 to 500°C
- Distance to spot size ratio about 15:1



CE

SK-8130

**MODEL SK-8140**

This particular model is specifically designed to measure a small spot with dual point lasers and also with alarm and PEAK/VALLEY functions.

- Dual point laser marker
- Adjustable emissivity from 0.10 to 1.00 in 0.01 steps
- Wide measuring range: -50 to 500°C
- Measurable spot of 2.5 mm in dia. from about 27 mm away



CE

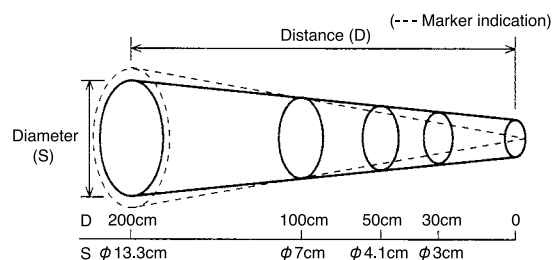
SK-8140

**DISTANCE TO SPOT SIZE RATIO (D:S)**

(Applicable for SK-8110, SK-8120 and SK-8130)

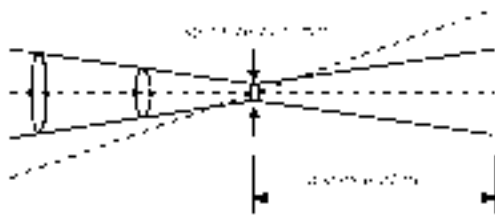
The infrared thermometer focuses infrared energy from an object onto its detector at a rate.

15:1 distance to spot size ratio (D:S) means that the infrared thermometer will read the temperature of an area of 7 cm diameter from 100 cm away.

**DUAL POINT LASER INFRARED THERMOEMTER**

(Applicable for SK-8140)

This particular thermometer is designed for measuring temperature of a small spot, marked by two laser beams focused. The size of measurable spot is 2.5 mm in diameter measured from about 27 mm away.

**SPECIFICATIONS**

| Name  | Circle Laser Marker Infrared Thermometer                                   |         |  | Dual Point Laser Infrared Thermometer                       |
|---|--|---------|--|---|
| Cat. No.  | 8211-00  | 8212-00 | 8213-00                                    | 8214-00   |
| Model   | SK-8110  | SK-8120 | SK-8130                                    | SK-8140   |
| Measuring range   | - 40 to 400°C  |         |  | - 50 to 500°C   |
| Accuracy<br>(emissivity at 0.95<br>in 18 to 28°C state) | ± 1% rdg. at above 200°C<br>± 2°C at 1 to 199°C<br>± 5°C at below 0°C      |         |  |   |
| Temperature drift<br>(emissivity at 0.95)               | ± 0.1% / °C rdg. at above 200°C<br>± 0.2°C / °C at below 200°C             |         |  |   |
| Repeatability   | less than 1°C at above 30°C (emissivity at 0.95 in 18 to 28°C state)       |         |  |   |
| Response time   | approx. 1.5 second (90% response)  |         |  |   |
| Emissivity  | Selectable among 0.95, 0.90 and 0.85                                       |         | Adjustable from 0.10 to 1.00 in 0.01 steps |   |
| Distance coefficient                                    | D : S = approx. 15 : 1<br>(D: distance, S: spot size)                      |         |  | Measuring distance: 27 mm<br>Spot size (diameter): ø 2.5 mm |
| Detector  | Thermopile   |         |  |   |
| Wavelength  | 8 to 14 μm   |         |  |   |
| Targeting system  | Circle Laser Marker  |         | Dual Point Laser Marker                    |   |
| Function  | Wavelength: 650 nm<br>Laser output: less than 1 mW (Class II Laser)        |         |  |   |
|   | Auto power-off, Auto backlight   |         |  |   |
|   | High and low temperature alarm<br>PEAK / VALLEY selectable                 |         |  |   |
| Operating ambient                                       | 0 to 50°C for temperature<br>Less than 85% RH for humidity (no condensing) |         |  |   |
| Waterproof property                                     | JIS C 0920 equivalent to IPX4  |         |  |   |
| Power requirement                                       | 3VDC ("AA" (LR6) size Alkaline battery x 2)<br>Consumption current: 120 mA |         |  |   |
| Battery life  | approx. 16 hours with use of laser and new Alkaline batteries              |         |  |   |
| Dimensions  | 44(W) x 152(H) x 27.5(D) mm  |         |  |   |
| Weight  | approx. 140g (including batteries)   |         |  |   |
| Materials   | Main body: Polycarbonate, Lens: Silicon                                    |         |  |   |
| Accessories   | Neck strap, "AA" (LR6) size Alkaline battery x 2                           |         |  |   |



**SIGMA II THERMOHYGROGRAPH**



CE

**SPECIFICATIONS**

Cat. No.: No. 7210-00 (Quartz type)  
 Model: NSII-Q  
 Measuring range: -15 to 40°C for temperature  
 0 to 100% for relative humidity  
 Clock: Quartz type:  
 1 day, 7 day and 32 day by change-over switch  
 Battery: "C" size battery x 2  
 Battery life: 1 year for continuous use  
 Sensors: Aged bimetallic strip for temperature  
 Human hair bundle for humidity  
 Accuracy: ±1°C for temperature (10 to 30°C)  
 ±3%RH for humidity (20 to 95%RH at 15 to 25°C)  
 ±5%RH (other range)  
 Chart graduation: 1°C for temperature 1% for RH  
 Recording pens: Cartridge pens (violet)  
 Dimensions: 336 (W) x 148 (D) x 295 (H) mm  
 Weight: Approx. 3.1 kg  
 Accessories: 7 day chart for 1 year use (55 sheets/pad), Test result  
 "C" size battery x 2

Cat. No.: No. 7211-00 (Quartz type)  
 Measuring range: -10 to 50°C for temperature  
 0 to 100% for relative humidity  
 Other specifications: same as 7210-00

Cat. No.: No. 7215-00 (Spring-wound type)  
 Model: NSII-S  
 Clock: Spring-wound type  
 Drum rotation: 1 day and 7 day changed by gear  
 Weight: Approx. 3.5kg  
 Accessories: 7 day chart for 1 year use (55 sheets/pad),  
 chart holder, Test result  
 Other specifications: same as 7210-00 quartz type



Use an external fan for faster response and more accurate measurement. It is in combination with this fan that the maximum capability of measurement for temperature and humidity can be achieved.

The fan inhales fresh air into the instrument and makes the response of sensor faster, resulting in the detection of accurate data. It is effective, particularly in warehouses which are excluded from the open air, laboratories where ventilation is poor or air tight small space.

| Cat. No.             | 7238-22                      |
|----------------------|------------------------------|
| Model                | Axial AC Fan                 |
| Power requirements   | 100 to 120 VAC 50/60 Hz      |
| Power consumption    | 70/55 mA                     |
| Revolution of fan    | 2700/3300 rpm                |
| Max. airflow         | 0.73/0.94 m <sup>3</sup> min |
| Max. static pressure | 3.4/5 mmAq                   |

**SIGMA II THERMOGRAPH**

CE

**SPECIFICATIONS**

Cat. No.: No. 7230-00  
 Model: NSII-TQ  
 Measuring range:  $-15$  to  $40^{\circ}\text{C}$  (option:  $-10$  to  $50^{\circ}\text{C}$ )  
 Clock: Quartz type  
           1 day, 7 day and 32 day by change-over switch  
 Battery: "C" size battery x 2  
           Battery life: 1 year for continuous use  
 Sensor: Aged bimetallic strip  
 Accuracy:  $\pm 1^{\circ}\text{C}$  (10 to  $30^{\circ}\text{C}$ )  
            $\pm 2^{\circ}\text{C}$  (other range)  
 Chart graduation:  $1^{\circ}\text{C}$   
 Recording pen: Cartridge pen (violet)  
 Dimensions: 336 (W) x 148 (D) x 295 (H) mm  
 Weight: Approx. 2.9 kg  
 Accessories: 7 day chart for 1 year use (55 sheets/pad)  
           "C" size battery x 2

**SIGMA II HYGROGRAPH**

CE

**SPECIFICATIONS**

Cat. No.: No. 7234-00  
 Model: NSII-HQ  
 Measuring range: 0 to 100% for relative humidity  
 Clock: Quartz type  
           1 day, 7 day and 32 day by change-over switch  
 Battery: "C" size battery x 2  
           Battery life: 1 year for continuous use  
 Sensor: Human hair bundle  
 Accuracy:  $\pm 3\%$  RH (20 to 95%RH at 15 to  $25^{\circ}\text{C}$ )  
            $\pm 5\%$  RH (other range)  
 Chart graduation: 1% RH  
 Recording pen: Cartridge pen (violet)  
 Dimensions: 336 (W) x 148 (D) x 295 (H) mm  
 Weight: Approx. 2.9 kg  
 Accessories: 7 day chart for 1 year use (55 sheets/pad)  
           "C" size battery x 2

**SIGMA II BAROGRAPH**

CE

**SPECIFICATIONS**

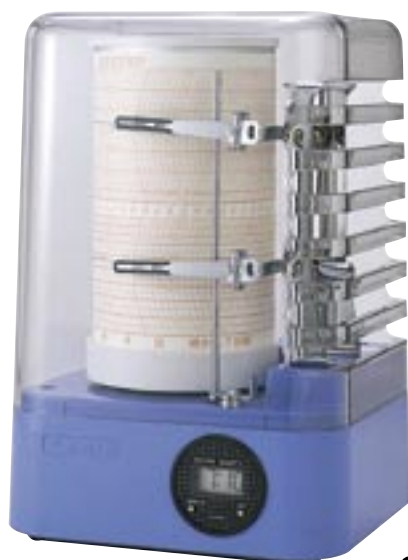
Cat. No.: No. 7237-00  
 Model: NSII-BQ  
 Measuring range: 940 to 1045 hPa  
 Clock: Quartz type  
           1 day, 7 day and 32 day by change-over switch  
 Battery: "C" size battery x 2  
           Battery life: 1 year for continuous use  
 Sensor: Bellows  
           Temperature compensation: Bimetal  
 Accuracy:  $\pm 1$  hPa (950 to 1040 hPa)  
            $\pm 2$  hPa (other range)  
 Chart graduation: 1 hPa  
 Recording pen: Cartridge pen (violet)  
 Dimensions: 336 (W) x 148 (D) x 295 (H) mm  
 Weight: Approx. 3.1kg (Quartz type)  
 Accessories: 7 day chart for 1 year use (55 sheets/pad)  
           "C" size battery x 2

\* Spring-wound type is available for ordering.

**No. 7012-00 LONG TERM THERMOHYGROGRAPH MODEL AURORA90 III****SPECIFICATIONS**

|                   |   |
|-------------------|---|
| Sensors:          | Aged bimetallic strip for temperature<br>Human hair bundle for humidity   |
| Measuring range:  | -20 to 50°C for temperature<br>0 to 100% for humidity   |
| Accuracy:         | ±1°C (at 10 to 30°C) for temperature<br>±2°C at other range<br>±3%RH for humidity (20 to 95%RH at 15 to 25°C)<br>±5%RH at other range |
| Chart graduation: | 1°C for temperature<br>1% for RH  |
| Clock:            | Quartz type   |
| Recording cycle:  | 1 month and 3 month   |
| Power:            | "C" size battery x 2  |
| Recording pens:   | Cartridge pens (violet)   |
| Dimensions:       | 336 (W) x 148 (D) 295 (H) mm  |
| Weight:           | Approx. 3.8 kg  |
| Accessories:      | 3 rolls of 3 month chart<br>Spare cartridge pen (violet) x 2<br>"C" size battery x 2, Test result                                     |

CE

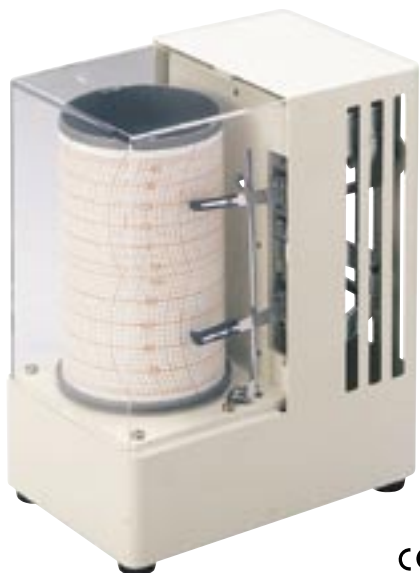
**No. 7006-00 THERMOHYGROGRAPH MODEL MINI-α (Alpha) (BLUE BASE)****SPECIFICATIONS**

|                   |   |
|-------------------|---|
| Sensors:          | Aged bimetallic strip for temperature<br>Humidity sensing coil for humidity   |
| Measuring range:  | -15°C to 50°C for temperature<br>10 to 100% for humidity  |
| Accuracy:         | ±2°C (at 10 to 30°C) for temperature<br>±3°C at other range<br>±5%RH for humidity (30 to 90% at 15 to 25°C)<br>±7%RH at other range |
| Chart graduation: | 2°C for temperature<br>5% for RH  |
| Clock:            | Quartz type   |
| Drum rotation:    | 7 day   |
| Recording pens:   | Cartridge pens (violet)   |
| Power:            | "AA" size battery x 1   |
| Dimensions:       | 185 (H) x 125 (W) x 110 (D) mm  |
| Weight:           | Approx. 0.8 kg  |
| Accessories:      | 7 day chart for one year use (55 sheets/pad)<br>"AA" size battery x 1   |

CE

**No. 7006-10**

As same as 7006-00, but base color is mocha brown.

**No. 7008-00 THERMOHYGROGRAPH MODEL MINI-CUBE****SPECIFICATIONS**

|                   |   |
|-------------------|---|
| Sensors:          | Aged bimetallic strip for temperature<br>Human hair bundle for relative humidity  |
| Measuring range:  | -15 to 40°C for temperature<br>5 to 100% for RH   |
| Accuracy:         | ±2°C (at 10 to 30°C) for temperature<br>±3°C at other range<br>±5%RH for humidity (30 to 90%RH at 15 to 25°C)<br>±7%RH at other range |
| Chart graduation: | 2°C for temperature<br>5% for RH  |
| Clock:            | Quartz type   |
| Drum rotation:    | 7 day   |
| Power:            | "AA" size battery x 1   |
| Recording pens:   | Cartridge pens (violet)   |
| Dimensions:       | 190 (H) x 148 (W) x 97 (D) mm   |
| Weight:           | Approx. 1.6 kg  |
| Accessories:      | 7 day chart for one year use (55 sheets/pad)<br>"AA" size battery x 1   |

CE

**No. 7200-00 SIGMA II REMOTE ONE POINT THERMOGRAPH****SPECIFICATIONS**

|                   |  |
|-------------------|--|
| Measuring range:  | -15 to 50°C  |
| Model:            | NSII-ES1 (one point type)  |
| Clock:            | Quartz type  |
| Drum rotation:    | 7 day and 32 day by change-over switch                               |
| Sensor:           | Liquid in stainless steel capillary                                  |
| Lead length:      | 5 m (vinyl coated)   |
| Accuracy:         | ±1°C   |
| Chart graduation: | 1°C  |
| Recording pen:    | Cartridge pen (violet)   |
| Dimensions:       | 336 (W) x 148 (D) x 295 (H) mm                                       |
| Weight:           | Approx. 3.6 kg   |
| Accessories:      | 7 day chart for one year use (55 sheets/pad)<br>"C" size battery x 2 |

**No. 7202-00 SIGMA II REMOTE TWO POINT THERMOGRAPH****SPECIFICATIONS**

|                   |  |
|-------------------|--|
| Measuring range:  | -15 to 50°C  |
| Model:            | NSII-ES2 (two point type)  |
| Clock:            | Quartz type  |
| Drum rotation:    | 7 day  |
| Sensors:          | Liquid in stainless steel capillary                                  |
| Lead length:      | 5 m (vinyl coated)   |
| Accuracy:         | ±1°C   |
| Chart graduation: | 1°C  |
| Recording pens:   | Cartridge pens (violet)  |
| Dimensions:       | 336 (W) x 148 (D) x 295 (H) mm                                       |
| Weight:           | Approx. 4.2 kg   |
| Accessories:      | 7 day chart for one year use (55 sheets/pad)<br>"C" size battery x 2 |

**No. 6000-00 HUMIDITY CONSTANT CHAMBER MODEL SK-120CHB**

The SK-120CHB is a simplified Humidity Constant Chamber that provides a constant and stable humidity atmosphere (around 55%) according to the splitting method. It can be used for verification of indicated value and adjustment of the SIGMAII series Thermohygrographs/Hygrograph.

**SPECIFICATIONS**

| NAME                             | HUMIDITY CONSTANT CHAMBER   |
|----------------------------------|---|
| Model                            | SK-120CHB   |
| Cat. No.                         | 6000-00   |
| Operation ambient                | Temperature : 15 to 30°C (temperature fluctuation must be within ±1°C per hour)<br>Humidity : 30 to 80% (no condensing) |
| Humidity generated in chamber    | Around 55%<br>(It will be stable around 45 to 65% depending on desiccant and ambient)                                   |
| Stability of humidity in chamber | Within ±1% (temperature fluctuation: within ±0.5°C/hour)<br>Within ±1.5% (temperature fluctuation: within ±1°C/hour)    |
| Range of humidity in chamber     | Within ±0.5% at the position for installing   |
| Power requirements               | 100 VAC ±10% 50/60 Hz   |
| Fuse                             | Ø6.4 x 30 mm 125 VAC 0.3A   |
| Dimensions                       | 600 (W) x 600 (H) x 581 (D) mm  |
| Materials                        | Stainless steel   |
| Weight                           | 16 kg   |
| Accessories                      | Desiccant (500 g) 1 ea.<br>Spare fuse 1 ea.   |



## Exclusive Charts

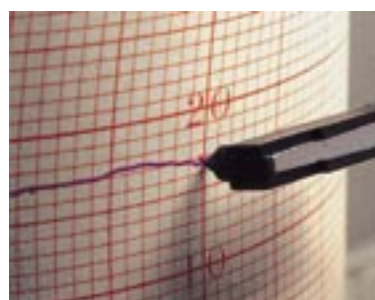
| Recorder   | Recording cycle | Cat. No. | Quantity   | Remarks        |
|--|-----------------|----------|------------|----------------|
| No. 7210-00/7215-00<br>Thermohygrograph            | 1 day           | 7210-60  | 400 sheets | C 241540       |
|  | 7 day           | 7210-62  | 55 sheets  | C 1681540      |
|  | 32 day          | 7210-64  | 55 sheets  | C 321540       |
| No. 7211-00<br>Thermohygrograph                    | 1 day           | 7211-60  | 400 sheets |                |
|  | 7 day           | 7211-62  | 55 sheets  |                |
|  | 32 day          | 7211-64  | 55 sheets  |                |
| No. 7012-00<br>Thermohygrograph                    | 3 month         | 7012-60  | 1 roll     | 3L 1002050-III |
|  | 1 month         | 7012-70  | 1 roll     | 1L 1002050-III |
| No. 7230-00<br>Thermograph                         | 1 day           | 7230-60  | 400 sheets | AT 241540      |
|  | 7 day           | 7230-62  | 55 sheets  | AT 1681540     |
|  | 32 day          | 7230-64  | 55 sheets  | AT 321540      |
| No. 7234-00<br>Hygrograph                          | 1 day           | 7234-60  | 400 sheets | NH 240100      |
|  | 7 day           | 7234-62  | 55 sheets  | AH 1680100     |
|  | 32 day          | 7234-64  | 55 sheets  | AH 320100      |
| No. 7237-00<br>Barograph (hPa scale) (※)           | 1 day           | 7237-60  | 400 sheets | NB 244045      |
|  | 7 day           | 7237-62  | 55 sheets  | AB 1684045     |
|  | 32 day          | 7237-64  | 55 sheets  | AB 324045-3049 |
| No. 7200-00<br>Remote one point Thermograph        | 7 day           | 7200-62  | 55 sheets  | AR 140-1       |
|  | 32 day          | 7200-64  | 55 sheets  | AR 320         |
| No. 7202-00<br>Remote two point Thermograph        | 7 day           | 7202-62  | 55 sheets  | AR 140-2       |
| No. 7005-00<br>MINI-STAR Thermohygrograph          | 7 day           | 7005-62  | 55 sheets  | S168-5100X640  |
| No. 7006-00/7006-10<br>MINI-ALPHA Thermohygrograph | 7 day           | 7006-62  | 55 sheets  | S168-1550      |
| No. 7008-00<br>MINI-CUBE Thermohygrograph          | 7 day           | 7008-62  | 55 sheets  | S168-5100X1540 |

The charts for "SIGMA II" series can be interchangeably used with "SIGMA" series products except 32 day chart.

※ The charts with mmHg scale is available.

## Other Accessories

| Items                  | Cat. No. | Quantity | Remarks        | Applicable recorder         |
|------------------------|----------|----------|----------------|-----------------------------|
| Cartridge pen (violet) | 7210-90  | 1        | SK-051-079     | Recorders listed above      |
| Cartridge pen (red)    | 7210-92  | 1        | SK-051-079     | Recorders listed above      |
| Dustproof cover        | 7238-20  | 1        |                | "Sigma II" Series recorders |
| Axial fan              | 7238-22  | 1        | 100VDC 50/60Hz | "Sigma II" Series recorders |







**No. 7540-00 HAIR HYGROMETER WITH THERMOMETER MODEL HIGHEST I**

**SPECIFICATIONS**

Sensors: Human hair for humidity  
Glass thermometer for temperature  
Measuring range: 20 to 100% for relative humidity  
-10 to 50°C for temperature  
Min. graduation: 1% for RH, 2°C for temperature  
Accuracy: ±3%RH (40 to 80%, 15 to 25°C)  
±5%RH (other than above)  
±2°C for temperature  
Dimensions: 150 mm dia. x 40 (D) mm  
Weight: Approx. 0.28 kg



**No. 7542-00 HAIR HYGROMETER WITH DIGITAL THERMOMETER MODEL HIGHEST II**

**SPECIFICATIONS**

Sensors: Human hair for humidity  
Thermistor for temperature  
Measuring range: 20 to 100% for relative humidity  
0 to 50°C for temperature  
Min. graduation: 2% for RH  
Resolution: 0.1°C for temperature  
Accuracy: ±4%RH (15 to 25°C, 40 to 80%)  
±7%RH (other than above)  
±1°C (at 0 to 40°C) for temperature  
±2°C (other than above)  
Dimensions: 135 mm dia. x 33 (D) mm  
Weight: Approx. 0.23 kg  
Accessories: Bracket (160 mm dia. x 4 (D) mm) , "AA" size battery x 2



**No. 7562-00 HYGROTHERMOMETER MODEL PALMA II**

**SPECIFICATIONS**

Sensors: Synthetic hair for humidity  
Glass thermometer for temperature  
Measuring range: 20 to 99% for relative humidity  
-10 to 50°C for temperature  
Min. graduation: 1% for RH, 5°C for temperature  
Accuracy: ±4%RH (40 to 80%, 15 to 25°C)  
±8%RH (other than above)  
Dimensions: 95 mm dia. x 18 (D) mm  
Weight: Approx. 0.1 kg



**No. 1013-00 THERMOHYGROMETER MODEL TH-300**

**SPECIFICATIONS**

Sensors: Coil for humidity  
Bimetallic strip for temperature  
Measuring range: 20 to 100% for relative humidity  
-30 to 50°C for temperature  
Min. graduation: 5% RH  
2°C for temperature  
Accuracy: ±5%RH (15 to 25°C, 40 to 70%)  
±8%RH (other than above)  
±2°C for temperature  
Dimensions: 285 (W) x 285 (H) x 35 (D) mm  
Weight: Approx. 0.75 kg



**No. 1050-00 DIGITAL THERMOHYGROMETER MODEL PC-5000TRH II**

**SPECIFICATIONS**

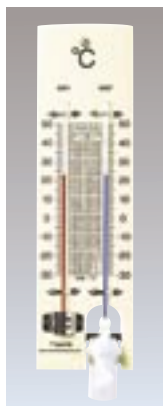
Measuring range: 0 to 50°C for temperature, 25 to 95% RH (Internal Sensor)  
-50 to 70°C for temperature (External Sensor)  
Accuracy: Temperature (Internal sensor) ±1°C (0 to 40°C)  
±2°C (other than above)  
(External sensor) ±1°C (0 to 40°C)  
±2°C (-30 to 0°C)  
±3°C (other than above)  
Humidity (Internal sensor) ±5%RH (15 to 40°C, 40 to 80%RH)  
±7%RH (other than above)  
Cord length: 3 m  
Dimensions: 98 (W) x 107 (H) x 20 (D) mm  
Weight: Approx. 0.145kg





**No. 7320-00 AUGUST PSYCHROMETER**  
SPECIFICATIONS

Measuring range: -20 to 50°C  
 Min. graduation: 0.5°C  
 Accuracy: ±0.5°C  
 Dimensions: 420 (W) x 110 (H) mm  
 Weight: 0.14 kg  
 Accessories: Metal frame, conversion table



**No. 1518-00 WOODEN BASE PSYCHROMETER**  
SPECIFICATIONS

Measuring range: -30 to 50°C  
 Min. graduation: 1°C  
 Accuracy: ±1°C at 0 to 30°C  
 ±2°C at other range  
 Dimensions: 79 (W) x 271 (H) x 29 (D) mm  
 Weight: Approx. 0.125 kg



**No. 1519-00 PSYCHROMETER MODEL SK-1**  
SPECIFICATIONS

Measuring range: -10 to 50°C  
 Min. graduation: 1°C  
 Accuracy: ±1°C at 0 to 30°C  
 ±2°C at other range  
 Dimensions: 104 (W) x 260 (H) x 28 (D) mm  
 Weight: Approx. 0.11 kg



**No. 1060-00 DIGITAL MIN-MAX THERMOMETER MODEL PC-6800**  
SPECIFICATIONS

Measuring range: -50 to 70°C (External Sensor)  
 -5 to 50°C (Internal Sensor)  
 Accuracy: ±1°C at 0 to 40°C  
 ±2°C at other range  
 Cord length: 3 m  
 Dimensions: 98 (W) x 107 (H) x 20 (D) mm  
 Weight: 0.145 kg



**No. 1740-50 DIGITAL MIN-MAX THERMOMETER MODEL PC-3500**  
SPECIFICATIONS

Measuring range: -50 to 70°C (External Sensor)  
 -5 to 50°C (Internal Sensor)  
 Accuracy: ±1°C at 0 to 40°C  
 ±2°C at other range  
 Cord length: 3 m, Accordance with JIS C 0920 (Drip-proof)  
 Dimensions: 67 (W) x 65 (H) x 16 (D) mm  
 Weight: 0.05 kg



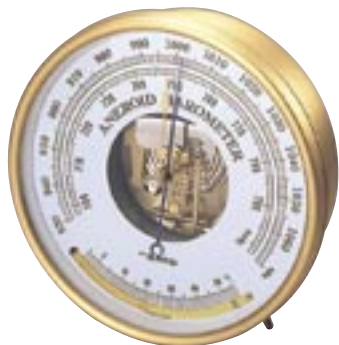
**U-TUBE MIN-MAX THERMOMETER**  
SPECIFICATIONS

Min. graduation: 1°C  
 Accuracy: ±1°C  
 Dimensions: 76 (W) x 220 (H) x 25 (D) mm  
 Weight: 0.135 kg  
 No. 1506-00 Measuring range: -20 to 50°C  
 No. 1506-50 Measuring range: -40 to 50°C



**No. 7308-00 MINI-MAX THERMOMETER WITH HYGROMETER**  
SPECIFICATIONS

Measuring range: -30 to 50°C for temp.  
 25 to 95%RH for humi.  
 Accuracy: ±2°C for temperature  
 ±5%RH (30 to 80%RH, 15 to 25°C)  
 for humidity  
 ±8%RH at other range  
 Dimensions: 180 (W) x 180 (H) x 35 (D) mm  
 Weight: 0.24 kg



**No. 7610-20 ANEROID BAROMETER WITH THERMOMETER**

**SPECIFICATIONS**

Measuring range: 930 to 1,070 hPa, 700 to 800 mmHg  
 Min. graduation: 1 hPa / 1 mm Hg  
 Temperature compensation: Bimetal  
 Accuracy: ±1 hPa at 980 to 1,020 hPa  
 ±3 hPa at other range  
 Temperature: Glass thermometer  
 Range: -10 to 50°C  
 Accuracy: ±2°C  
 Usable altitude: Up to 500 m  
 Case material: Brass  
 Dimensions: Ø158 x 50 (D) mm  
 Weight: Approx. 0.69 kg



**No. 7612-00 BAROMETER WITH DIGITAL THERMOMETER**

**SPECIFICATIONS**

Air pressure:  
 Measuring range: 945 to 1,045 hPa (black scale)  
 710 to 780 mm Hg (red scale)  
 Min. graduation: 1 hPa / 1 mm Hg  
 Accuracy: ±1 hPa at 980 to 1,020 hPa  
 ±3 hPa at other range  
 Temperature:  
 Measuring range: 0 to 50°C  
 Resolution: 0.1°C  
 Accuracy: ±1°C (at 0 to 40°C)  
 ±2°C at other range  
 Dimensions: Ø135 x 33 (D) mm  
 Weight: Approx. 0.25 kg  
 Accessories: Bracket (Ø160 x 4 (D) mm), "AA" size battery x 1



**No. 7640-00 PRECISION FORTIN BAROMETER**

This instrument consists of Scale, Mercury-filled glass tube and Cistern. Scale is graduated in hPa (mb) and mmHg on a brass tube marking apex of ivory pointer as cardinal point and is read by the vernier in 0.1 mm graduation.

**SPECIFICATIONS**

Measuring method: Mercury column  
 Measuring range: 870 to 1,090hPa  
 650 to 820mmHg  
 Min. graduation: 1hPa/1mmHg  
 Vernier readings: 0.1hPa/0.1mmHg  
 Accuracy: ±0.5hPa  
 Mounted Thermometer: Mercury-filled glass thermometer  
 Measuring range: -20 to 50°C  
 Min. graduation: 0.5°C  
 Dimensions: 1,130 (H) x 100 (W) x 100 (D) mm  
 Weight: Barometer: approx. 2.5 kg  
 Mounting board: approx. 1.8 kg

For the safety of shipping, mercury is separately packed in a glass container.

The relation between elevation and air pressure (JIS W02101)

| Elevation (m) | Air pressure (hPa) | Mercury column (mmHg) | Elevation (m) | Air pressure (hPa) | Mercury column (mmHg) | Elevation (m) | Air pressure (hPa) | Mercury column (mmHg) | Elevation (m) | Air pressure (hPa) | Mercury column (mmHg) |
|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|
| 0             | 1013.25            | 760.00                | 750           | 926.34             | 694.81                | 1500          | 845.56             | 634.22                | 2250          | 770.58             | 577.98                |
| 50            | 1007.26            | 755.51                | 800           | 920.76             | 690.63                | 1550          | 840.38             | 630.34                | 2300          | 765.78             | 574.38                |
| 100           | 1001.29            | 751.03                | 850           | 915.22             | 686.47                | 1600          | 835.23             | 626.48                | 2350          | 761.01             | 570.80                |
| 150           | 995.36             | 746.58                | 900           | 909.70             | 682.33                | 1650          | 830.11             | 622.63                | 2400          | 756.26             | 567.24                |
| 200           | 989.45             | 742.15                | 950           | 904.21             | 678.21                | 1700          | 825.01             | 618.81                | 2450          | 751.53             | 563.69                |
| 250           | 983.58             | 737.74                | 1000          | 898.74             | 674.11                | 1750          | 819.94             | 615.00                | 2500          | 746.82             | 560.16                |
| 300           | 977.73             | 733.35                | 1050          | 893.31             | 670.04                | 1800          | 814.89             | 611.22                | 2550          | 742.14             | 556.65                |
| 350           | 971.90             | 728.99                | 1100          | 887.90             | 665.98                | 1850          | 809.87             | 607.45                | 2600          | 737.49             | 553.16                |
| 400           | 966.11             | 724.64                | 1150          | 882.51             | 661.94                | 1900          | 804.87             | 603.70                | 2650          | 732.86             | 549.69                |
| 450           | 960.35             | 720.32                | 1200          | 877.15             | 657.92                | 1950          | 799.90             | 599.97                | 2700          | 728.25             | 546.23                |
| 500           | 954.61             | 716.01                | 1250          | 871.82             | 653.92                | 2000          | 794.95             | 596.26                | 2750          | 723.66             | 542.79                |
| 550           | 948.90             | 711.73                | 1300          | 866.52             | 649.94                | 2050          | 790.03             | 592.57                | 2800          | 719.10             | 539.37                |
| 600           | 943.22             | 707.47                | 1350          | 861.24             | 645.98                | 2100          | 785.13             | 588.90                | 2850          | 714.56             | 535.96                |
| 650           | 937.56             | 703.23                | 1400          | 855.99             | 642.04                | 2150          | 780.26             | 585.24                | 2900          | 710.05             | 532.58                |
| 700           | 931.94             | 699.01                | 1450          | 850.76             | 638.12                | 2200          | 775.41             | 581.60                | 2950          | 705.55             | 529.21                |



**No. 3372-00 AIR VELOCITY TRANSMITTER MODEL SK-ATV****SPECIFICATIONS**

|                           |  |
|---------------------------|--|
| Measurement object:       | Clean air at normal pressure and humidity                                |
| Measuring range:          | 0 to 30 m/s  |
| Accuracy:                 | ±3% F.S.   |
| Analog output:            | 0 to 300 mVDC / 0 to 30 m/s (linear output)                              |
| Temperature compensation: | 0 to 60°C  |
| Power requirements:       | 12 VDC   |
| Power consumption:        | 200 mA (Max.)  |
| Operating ambient:        | Main body: 5 to 45°C for air temperature<br>less than 85%RH for humidity |
|                           | Probe: 0 to 80°C   |
| Outer dimensions:         | 90 (W) x 50 (H) x 190 (D) mm   |
| Probe Sensor:             | Coated platinum element  |
| Dimensions:               | Ø8 x 200 mm  |
| Cord:                     | Ø5.5 mm x 5 (L)m   |
| Weight:                   | Approx. 400 g  |
| Standard accessories:     | Fitting with screws for probe  |

**No. 7683-01 HOT WIRE ANEMOMETER MODEL SK-28V****SPECIFICATIONS**

|                           |   |
|---------------------------|---|
| Measurement object:       | Clean air at normal pressure and humidity   |
| Measuring range:          | Air velocity: 0.5 to 3 m/s, 3 to 40 m/s (dual range)<br>Air temperature: 0 to 60°C, 60 to 120°C (dual range)<br>Static pressure: 0 to 500 Pa, 500 to 4500 Pa (dual range) |
| Accuracy:                 | Air velocity: ±5% F.S. +0.1 m/s at 18 to 28°C<br>Air temperature: ±0.5°C<br>Static pressure: ±2% F.S.   |
| Temperature compensation: | 0 to 120°C  |
| Power requirements:       | 9 VDC ("C" alkaline battery x 6)  |
| Operating ambient:        | Main body: 5 to 45°C for air temperature<br>less than 85%RH for humidity  |
|                           | Probe: In the measuring range   |
| Outer dimensions:         | 214 (W) x 117 (H) x 155 (D) mm  |
| Probe Sensor:             | Coated platinum element   |
| Dimensions:               | Ø8 to 18.7 mm x 180 to 930 (L) mm (telescoping type)  |
| Cord:                     | Ø6 mm x 3 (L) m   |
| Weight:                   | Approx. 2 kg (with batteries)   |
| Standard accessories:     | Carrying case, "C" size battery x 6, test result  |

**No. 7693-00 HOT WIRE ANEMOMETER MODEL SK-73D****SPECIFICATIONS**

|                           |  |
|---------------------------|--|
| Measurement object:       | Clean air at normal pressure and humidity                                |
| Measuring range:          | Air velocity: 0 to 30 m/s<br>Air temperature: 0 to 80°C                  |
| Accuracy:                 | Air velocity: ±3% F.S. ±1 digit<br>Air temperature: ±0.5°C ±1 digit      |
| Resolution:               | Air velocity: 0.1 m/s<br>Air temperature: 0.1°C                          |
| Temperature compensation: | 0 to 80°C  |
| Power requirements:       | 7.5 VDC ("AA" alkaline battery x 5)                                      |
| Battery life:             | About 6 hours (continuously use at 30 m/s at 25°C)                       |
| Operating ambient:        | Main body: 5 to 45°C for air temperature<br>less than 85%RH for humidity |
|                           | Probe: In the measuring range  |
| Outer dimensions:         | 84 (W) x 206 (H) x 42 (D) mm   |
| Probe Sensor:             | Coated platinum element  |
| Dimensions:               | Ø8 to 18.7 mm x 180 to 930 (L) mm (telescoping type)                     |
| Cord:                     | Ø6 mm x 2 (L) m  |
| Weight:                   | Approx. 475 g (with batteries)   |
| Materials of case:        | ABS resin  |
| Standard accessories:     | Vinyle case, "AA" size battery x 5, test result                          |



**No. 7802-00 DIGITAL WIND SPEED AND DIRECTION INDICATOR  
SPECIFICATIONS****Wind Speed and Direction Sensor**

Wind direction: Aeroplane type counterbalanced tail, Potentiometer

Wind speed: Generated by 4 blade propeller

Starting speed: 2 m/s

Withstand speed: 90 m/s

Measuring range: Wind direction: 0 to 540°

Wind speed: 2 to 70 m/s

Output voltage: Wind direction: 0 to 5 VDC / 0 to 540° (540° = N.E.S.W.N.E.S.)

Wind speed: 0 to 5 VDC / 0 to 70 m/s

Power supply: 12VDC ±5% (consumption: 10 mADC max.)

Dimensions, weight: 510 (W) x 600 (H) mm, 3kg

**Wind Speed and Wind Direction Indicator**

Input voltage: Wind direction: 0 to 5 VDC / 0 to 540°

Output voltage: Instant/Mean Wind direction: 0 to 10 mV, 0 to 1 V / 0 to 540°  
(Instant or mean selected by switch)

Instant/Mean Wind speed: 0 to 10 mV, 0 to 1 V / 0 to 70 m/s

(Instant and mean signals output simultaneously)

Display: Wind direction: 16 cardinal points, LED (dot display)

Wind speed: 3 digits, LED (7 segments)

Accuracy: Wind direction: Within ±5°

Wind speed: Within ±0.5 m/sec. at less than 10 m/s

Within ±5% at more than 10 m/s

Measuring system: Instant and mean (CR integration  $t = 120$  sec.)

Power requirement: 100 VAC ±10% 50/60 Hz (Other voltage is available)

Power consumption: 100 mA max.

Operating ambient: 0 to 40°C

30 to 85% RH (no condensing)

Atmosphere of approx. 1,013 hPa, free from corrosive gas.

Storage temperature: -10 to 70°C

Dimensions, weight: 263 (W) x 136 (H) x 239 (D) mm, 3.5kg

**No. 7804-2-00 DIGITAL MICRO WIND SPEED AND DIRECTION INDICATOR  
SPECIFICATIONS****Micro Wind Speed and Direction Sensor**

Wind direction: Aeroplane type counterbalanced tail

Rotary encoder (8 bit gray code)

Wind speed: 4 blade propeller coupled to DC generator

Starting speed: 0.4 m/s

Withstand wind speed: 70 m/s

Measuring range: Wind direction: 0 to 540°

Wind speed: 0.4 to 50 m/s

Output voltage: Wind direction: 8 bit gray code / 0 to 540°

(540° = N.E.S.W.N.E.S.)

Wind speed: 0 to 2 VDC / 0 to 50 m/s

Power requirement: 12 VDC ±5% (consumption: 90 mA max.)

Dimensions, weight: 620 (W) x 630 (H) mm, 3kg

**Micro Wind Speed and Direction Indicator**

Input voltage: Wind direction: 8 bit gray code / 0 to 540°

Wind speed: 0 to 2 VDC / 0 to 50 m/s

Measuring method: Instant

Mean: CR integration  $t = 120$  sec.

Output voltage: Instant wind direction: 0 to 10 mV, 0 to 1 V / 0 to 540°

Mean wind direction: 0 to 10 mV, 0 to 1 V / 0 to 540°

(Instant and Mean are selected by switch.)

(540° = N.E.S.W.N.E.S.)

Instant wind speed: 0 to 10 mV, 0 to 1 V / 0 to 10 m/s

0 to 10 mV, 0 to 1 V / 0 to 50 m/s

Mean wind speed: 0 to 10 mV, 0 to 1 V / 0 to 10 m/s

0 to 10 mV, 0 to 1 V / 0 to 50 m/s

(Range of 0 to 10 m/s or 0 to 50 m/s is selected by wind speed selector)

Display: Wind direction: 16 cardinal points: LED (dot display)

Wind speed: 3 digits: LED (7 segments)

Combined accuracy: Wind direction: Within ±5°

Wind speed: Within ±0.3 m/s under 5 m/s

Within ±5% of indicated value over 5 m/s

Power requirement: 100 VAC ±10% 50/60 Hz (Other voltage is available)

Power consumption: 100 VAC less than 100 mA

Operating ambient: 0 to 40°C

30 to 85% RH (no condensing)

Atmosphere of approx. 1,013 hPa, free from corrosive gas.

Storage temperature: -10 to 70°C

Dimensions, weight: 263 (W) x 136 (H) x 340 (D) mm, 3.5kg



**No. 7763-2 DIGITAL ANEMOMETER WITH ALARM**

## SPECIFICATIONS

**Sensor**

|                                     |                      |
|-------------------------------------|----------------------|
| 3-cup anemometer                    |                      |
| Photo coupler system                |                      |
| 48 pulses per rotation              |                      |
| 1564 pulses per 60 m/s (wind speed) |                      |
| Measuring range:                    | 2 to 60 m/s          |
| Starting wind speed:                | 2 m/s                |
| Withstand wind speed:               | 90 m/s               |
| Measuring range:                    | 2 to 60 m/s          |
| Outer dimensions:                   | 310 (W) x 380 (H) mm |
| Weight:                             | 0.8 kg               |

**Indicator with alarm**

|                  |  |
|------------------|--|
| Measuring range: | 0 to 60 m/s  |
| Accuracy:        | Within $\pm 0.5$ m/s at less than 10 m/s<br>Within $\pm 0.5\%$ at more than 10 m/s |

**Alarm**

|                           |  |
|---------------------------|--|
| Alarm set:                | 2 points   |
| Range for setting:        | 0 to 60 m/s<br>2 digits digital switch<br>1 m/s step                   |
| Alarm display: 1st alarm: | Yellow LED lights, Signal by a buzzer                                  |
| 2nd alarm:                | Red LED lights, Signal by a buzzer                                     |
| Alarm output:             | Relay contact output (NO, NC)<br>Contact capacity (110 VAC, 24 VDC 3A) |
| Buzzer:                   | Selectable ON or OFF by switch   |
| Alarm reset:              | Manual reset   |

**Display**

|                     |                          |
|---------------------|--------------------------|
| Instant wind speed: | 3 digits LED, 7 segments |
| Mean wind speed:    | 3 digits LED, 7 segments |

**Methods of measurements:**

Instant  
Mean (selectable interval 1, 2 or 10 min.)

|                    |                                |
|--------------------|--------------------------------|
| Power requirement: | 100 VAC $\pm 10\%$ 50/60 Hz    |
| Outer dimensions:  | 263 (W) x 136 (H) x 239 (D) mm |
| Weight:            | 3.5 kg                         |
| Panel-cut size:    | 256 (W) x 129 (H) mm           |

**No. 7720-00 HAND HELD ANEMOMETER**

## SPECIFICATIONS

|                       |   |
|-----------------------|---|
| System:               | Cup-generation system   |
| Measuring range:      | 2 to 30 m/s   |
| Accuracy:             | Within $\pm 1$ m/s at less than 10 m/s<br>Within $\pm 10\%$ at more than 10 m/s |
| Starting wind speed:  | 1.5 m/s   |
| Withstand wind speed: | 40 m/s  |
| Outer dimensions:     | $\varnothing 174$ x 313 (H) mm  |
| Weight:               | Approx. 0.7 kg  |
| Standard accessories: | Remote measuring cable (2 m), carrying case                                     |

**No. 7730-00 HAND HELD COMBINATION ANEMOMETER**

## SPECIFICATIONS

|                                |   |
|--------------------------------|---|
| System:                        | Wind speed: Cup-generation system<br>Wind direction: Counterbalanced vane       |
| Measuring range:               | Wind speed: 2 to 30 m/s<br>Wind direction: 360°                                 |
| Graduation for wind direction: | 16 cardinal points  |
| Accuracy (Wind speed):         | Within $\pm 1$ m/s at less than 10 m/s<br>Within $\pm 10\%$ at more than 10 m/s |
| Starting wind speed:           | 1.5 m/s   |
| Withstand wind speed:          | 40 m/s  |
| Outer dimensions:              | 360 (W) x 351 (H) mm  |
| Weight:                        | 1.5 kg  |
| Standard accessories:          | Remote measuring cable (2 m), carrying case                                     |



### No. 7790-00 WIND SPEED AND DIRECTION INDICATOR SPECIFICATIONS

#### Wind speed and direction sensor

|                 |   |
|-----------------|---|
| Wind direction: | Counterbalanced tail                                      |
| Wind speed:     | 4 blade propeller   |
| Transducer:     | Wind direction: synchro motor<br>Wind speed: AC generator |
| Dimensions:     | 510 (W) x 600 (H) mm                                      |
| Weight:         | Approx. 3.0 kg  |

#### Indicator

|                    |   |
|--------------------|---|
| Measuring range:   | Wind direction: 360° continuous (16 divisions)<br>Wind speed: 2 to 60 m/s (min. scale 1 m/s)                    |
| Accuracy:          | Wind direction: within ±5°<br>Wind speed: within ±0.5 m/s at less than 10 m/s<br>within ±5% at more than 10 m/s |
| Power requirement: | 100 VAC±10%   |
| Operation ambient: | -10 to 50°C, 40 to 85% RH   |
| Dimensions:        | 300 (W) x 170 (H) x 150 (D) mm  |
| Weight:            | Approx. 3.6 kg  |
| Cable:             | 20 m (7 conductor)  |



### No. 7760-00 3-CUP ANEMOMETER

#### Components: Sensor, Indicator, 20m cable

#### SPECIFICATIONS

|                       |   |
|-----------------------|---|
| Measuring range:      | 2 to 60 m/s   |
| Transducer:           | AC generator  |
| Starting speed:       | 2 m/s   |
| Withstand wind speed: | 90 m/s  |
| Accuracy:             | Within ±0.5 m/s at less than 10 m/s<br>Within ±5% at more than 10 m/s               |
| Power requirement:    | Self-generated  |
| Dimensions:           | Sensor: 304 (W) x 353 (H) x 130 (D) mm<br>Indicator: 180 (W) x 180 (H) x 131 (D) mm |
| Weight:               | Sensor: 1.0 kg<br>Indicator: 1.7 kg   |



### No. 7760-01 3-CUP ANEMOMETER WITH ALARM

#### Components: Sensor, Indicator, 20m cable

#### SPECIFICATIONS

|                       |   |
|-----------------------|---|
| Measuring range:      | 2 to 60m/s  |
| Alarm setting range:  | 2 to 60m/s  |
| Transducer:           | AC generator  |
| Starting speed:       | 2 m/s   |
| Withstand wind speed: | 90 m/s  |
| Accuracy:             | Within ±0.5 m/s at less than 10 m/s<br>Within ±5% at more than 10 m/s               |
| Power requirement:    | 100VAC (50/60Hz)  |
| Dimensions:           | Sensor: 304 (W) x 353 (H) x 130 (D) mm<br>Indicator: 200 (W) x 169 (H) x 191 (D) mm |
| Weight:               | Sensor: 1.0 kg<br>Indicator: 2.4 kg   |



**No. 7932-02 DIGITAL RAIN GAUGE WITH ALARM**

**Components:** Rainfall sensor, Indicator, 20 m cable

**SPECIFICATIONS**

**Sensor**

Type of sensor: Tipping bucket type rainfall sensor  
 Output: 1 contact point pulse per 0.5 mm of rainfall amount  
 Dimensions: Ø200 x 450 (H) mm  
 Weight: Approx. 2.2 kg

**Indicator**

Measuring range: 0 to 1000 mm (repeat) 0.5mm step  
 Display range: 000.0 to 999.5 mm  
 Setup time: 1 to 99 minutes  
 Alarm point: 1 point (Integrated amount or Amount per setup time)  
 Alarm setting range: 0 to 999 mm  
 Power requirement: 100VAC ±10%, 50/60Hz  
 (Built-in battery works for approx. 7 hours at the time of blackout)  
 Power consumption: 150mA max.  
 Dimensions: 206 (W) x 106 (H) x 305 (D) mm  
 Weight: Approx. 4.0 kg



**No. 7980-S-40 RAINFALL SENSOR**

Sensor: Tipping bucket type  
 Orifice: 200 mm  
 Output: 1 contact point pulse per 0.5 mm of rainfall amount  
 Switch: Reed switch (contact time 0.1 second)  
 Contact rating: 1 ADC max. 250 VDC max.  
 Accuracy: Within 2% (100 mm/hr.)  
 Materials: Stainless steel (SUS304)  
 Cable: 20 m (Two conductors)  
 Dimensions: Ø200 x 450 (H) mm  
 Weight: Approx. 2.2 kg

**No. 7820-00 EVENT RECORDER**

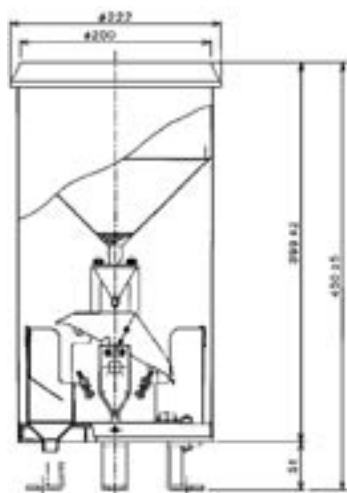
This instrument is used connecting with a rainfall sensor. Amount of rainfall measured can be recorded with numbers of electric contacts (pulse) on a chart.

**SPECIFICATIONS**

Mechanism: Solenoid and electromagnet activated ratchet drive the pen with snail cam. When the pen reaches 100 pulses, it returns to zero and rises again.  
 Measuring range: 0 → 100 (pulse counting method)  
 Drum rotation: 1 day and 7 day changed by gear  
 Power requirement: 3VDC ("D" size battery x 2)  
 Power consumption: 100mA  
 Width of input pulse: More than 0.1 sec. (ON/OFF signal by contact)  
 Contact interval: More than 0.2 sec. (interval between OFF and ON)  
 Operation ambient: -10 to 40°C  
 Dimensions: 300(W) x 200(H) x 140(D) mm  
 Weight: Approx. 3.7kg  
 Standard accessories: 1 pad of 7 day chart (55 sheets/pad), "D" size battery x 2, "C" size battery x 1

**Consumables:**

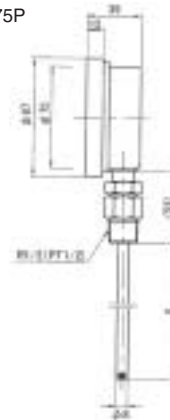
- No. 7820-60 1 day chart (400 sheets/pad)
- No. 7820-62 7 day chart (55 sheets/pad)
- No. 7210-90 Cartridge pen (violet)



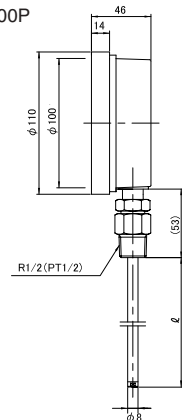
**BIMETAL THERMOMETERS (STOCK ITEMS) MODEL BM-T-75P/BM-S-75P/BM-T-100P/BM-S-100P**



BM-S-75P

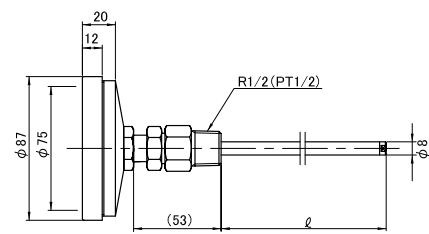


BM-S-100P

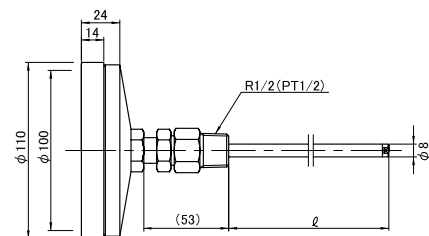


BM-T-75P

BM-T-75P



BM-T-100P



MUTUAL SPECIFICATIONS

| Cat. No.                    | 2075-B                       | 2078-B   | 2080-B    | 2085-B    |
|-----------------------------|------------------------------|----------|-----------|-----------|
| Model                       | BM-T-75P                     | BM-S-75P | BM-T-100P | BM-S-100P |
| Case dia.                   | 87mm                         |          | 110mm     |           |
| Dial dia.                   | 75mm                         |          | 100mm     |           |
| Materials<br>Case<br>Window | Polyamide(PA) resin<br>glass |          |           |           |
| Sensing stem<br>Materials   | Ø8 mm<br>Brass plating (Bs)  |          |           |           |
| Screw<br>Materials          | PT1/2<br>Brass plating (Bs)  |          |           |           |

| Measuring range | Stem length | BM-T-75P | BM-S-75P | BM-T-100P | BM-S-100P |
|-----------------|-------------|----------|----------|-----------|-----------|
| 0 to 50°C       | 0mm         |          |          |           |           |
|                 | 100mm       |          |          |           |           |
|                 | 150mm       |          |          |           |           |
| 0 to 100°C      | 50mm        |          |          |           |           |
|                 | 100mm       |          |          |           |           |
|                 | 150mm       |          |          |           |           |
| 0 to 150°C      | 50mm        |          |          |           |           |
|                 | 100mm       |          |          |           |           |
|                 | 150mm       |          |          |           |           |

\* Other specifications are available by order. Please contact us for more information.



**BIMETAL THERMOMETERS (STOCK ITEMS) MODEL BM-S-90S/BM-T-90S/BM-T-75S**



BM-S-90S



BM-T-90S

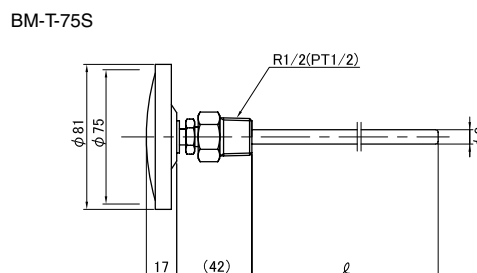
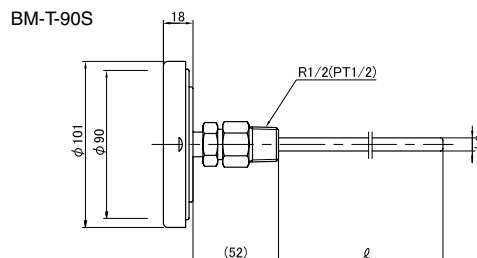
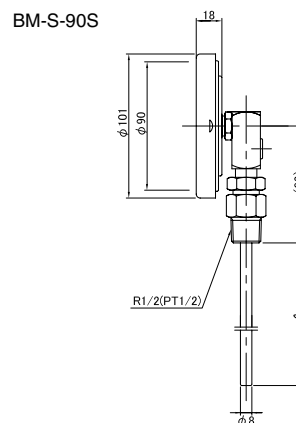


BM-T-75S

MUTUAL SPECIFICATIONS

| Cat. No.           | 2010-B               | 2030-B   | 2110-B               |
|--------------------|----------------------|----------|----------------------|
| Model              | BM-S-90S             | BM-T-90S | BM-T-75S             |
| Case dia.          | 101mm                |          | 81mm                 |
| Dial dia.          | 90mm                 |          | 75mm                 |
| Materials          | SUS304               |          |                      |
| Case               | glass                |          |                      |
| Sensing stem       | Ø8 mm                |          |                      |
| Materials          | SUS304               |          |                      |
| Screw              | PT1/2                |          |                      |
| Materials          | SUS304               |          |                      |
| Withstand pressure | 5kgf/cm <sup>2</sup> |          | 2kgf/cm <sup>2</sup> |

| Measuring range | Stem length | BM-S-90S | BM-T-90S | BM-T-75S |
|-----------------|-------------|----------|----------|----------|
| -30 to 50°C     | 60mm        | ○        | ○        | ○        |
|                 | 100mm       | ○        | ○        | ○        |
|                 | 150mm       | ○        | ○        | ○        |
|                 | 200mm       | ○        | ○        | —        |
| 0 to 100°C      | 50mm        | ○        | ○        | ○        |
|                 | 100mm       | ○        | ○        | ○        |
|                 | 150mm       | ○        | ○        | ○        |
|                 | 200mm       | ○        | ○        | —        |
| 0 to 150°C      | 50mm        | ○        | ○        | —        |
|                 | 100mm       | ○        | ○        | —        |
|                 | 150mm       | ○        | ○        | —        |
|                 | 200mm       | ○        | ○        | —        |
| 0 to 200°C      | 50mm        | —        | ○        | —        |
|                 | 100mm       | —        | ○        | —        |
|                 | 150mm       | —        | ○        | —        |
|                 | 200mm       | —        | ○        | —        |



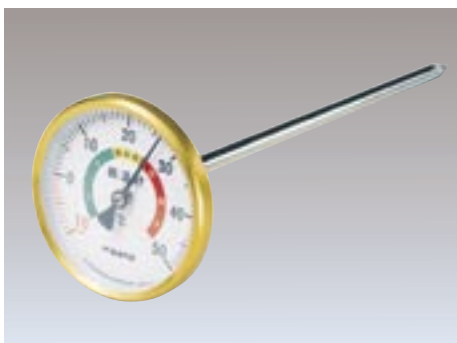
\* Other specifications are available by order. Please contact us for more information.

**No. 2150-B BIMETAL THERMOMETER FOR ASPHALT****SPECIFICATIONS**

|                  |  |
|------------------|--|
| Case diameter:   | Ø80 mm                                 |
| Dial diameter:   | Ø75 mm (Black scale plate is provided) |
| Case material:   | SPCC Nickel plating                    |
| Cover material:  | SUS304                                 |
| Window material: | Glass                                  |
| Stem dimensions: | Ø8 x 200 mm, pointed end               |
| Stem material:   | SUS304                                 |
|                  | No. 2150-10 Black scale plate          |
|                  | No. 2150-20 White scale plate          |
| Temp. range:     | 0 to 200°C (5/1)                       |

**No. 2250-10 BIMETAL THERMOMETER FOR ASPHALT (LARGE TYPE II)****SPECIFICATIONS**

|                        |                          |
|------------------------|--------------------------|
| Case diameter:         | Ø175 mm                  |
| Dial diameter:         | Ø150 mm                  |
| Case & cover material: | Polyamide resin          |
| Window material:       | Glass                    |
| Stem dimensions:       | Ø8 x 200 mm, pointed end |
| Stem material:         | SUS304                   |
| Temp. range:           | 0 to 200°C (2/1)         |

**No. 2180-B BIMETAL THERMOMETERS FOR GRAIN****SPECIFICATIONS**

|                  |                         |
|------------------|-------------------------|
| Case diameter:   | Ø80 mm                  |
| Dial diameter:   | Ø75 mm                  |
| Case material:   | SPCC Nickel plating     |
| Cover material:  | Aluminum                |
| Window material: | Glass                   |
| Stem dimensions: | No. 2180-00 Ø8 x 250 mm |
|                  | No. 2185-00 Ø8 x 500 mm |
| Stem material:   | SUS304                  |
| Temp. range:     | -10 to 50°C (1/1)       |

**No. 2340-B SURFACE (MAGNETIC) BIMETAL THERMOMETERS****SPECIFICATIONS**

|                  |                              |
|------------------|------------------------------|
| Case diameter:   | Ø64 mm x 16 mm (t)           |
| Dial diameter:   | Ø60 mm                       |
| Case material:   | Bs chrome plating            |
| Cover material:  | SUS304                       |
| Window material: | Glass                        |
| Bulb dimensions: | Ø25 x 7 mm (t)               |
| Temp. range:     | No. 2340-20 0 to 200°C (2/1) |
|                  | No. 2340-40 0 to 400°C (5/1) |

**No. 2060-B POCKET BIMETAL THERMOMETERS****SPECIFICATIONS**

|                        |                                |
|------------------------|--------------------------------|
| Case diameter:         | Ø26 mm                         |
| Dial diameter:         | Ø24 mm                         |
| Case & cover material: | SUS304                         |
| Window material:       | Glass                          |
| Stem dimensions:       | Ø4 x 130 mm, pointed end       |
| Stem material:         | SUS304                         |
| Sheath material:       | Polyvinyl chloride             |
| Accessories:           | Plastic window cover           |
| Temp. range:           | No. 2060-45 -40 to 50°C (1/1)  |
|                        | No. 2060-11 -10 to 110°C (1/1) |
|                        | No. 2060-20 0 to 200°C (5/1)   |


**BIMETAL THERMOMETERS (BACK CONNECTION)  
MODEL BM-T-40S/BM-T-60S/BM-T-70S/BM-T-90S**

## SPECIFICATIONS

| Cat. No.           | 2440-B                     | 2460-B               | 2470-B                | 2490-B          |
|--------------------|----------------------------|----------------------|-----------------------|-----------------|
| <b>Model</b>       | <b>BM-T-40S</b>            | <b>BM-T-60S</b>      | <b>BM-T-70S</b>       | <b>BM-T-90S</b> |
| Dimensions         | Case                       | 44mm dia.            | 64mm dia.             | 80mm dia.       |
|                    | Dial                       | 42mm dia.            | 60mm dia.             | 70mm dia.       |
| Case construction  | Splash-proof type          |                      |                       |                 |
| Measuring range    | -50 to 500°C (See page 36) |                      |                       |                 |
| Materials          | Case                       | SUS304               |                       |                 |
|                    | Window                     | Glass                | Glass (option: Acryl) |                 |
|                    | Sensing stem               | SUS304               |                       |                 |
| Sensing stem dia.  | 4,6,8,10 mm                | 6, 8, 10, 12 mm      |                       |                 |
| Withstand pressure | 2kgf/cm <sup>2</sup>       | 5kgf/cm <sup>2</sup> |                       |                 |


**BIMETAL THERMOMETERS (BOTTOM CONNECTION)  
MODEL BM-S-60S/BM-S-70S/BM-S-90S**

## SPECIFICATIONS

| Cat. No.           | 2465-B                     | 2475-B                | 2495-B          |
|--------------------|----------------------------|-----------------------|-----------------|
| <b>Model</b>       | <b>BM-S-60S</b>            | <b>BM-S-70S</b>       | <b>BM-S-90S</b> |
| Dimensions         | Case                       | 64mm dia.             | 80mm dia.       |
|                    | Dial                       | 60mm dia.             | 70mm dia.       |
| Case construction  | Splash-proof type          |                       |                 |
| Measuring range    | -50 to 500°C (See page 36) |                       |                 |
| Materials          | Case                       | SUS304                |                 |
|                    | Window                     | Glass (option: Acryl) |                 |
|                    | Sensing stem               | SUS304                |                 |
| Sensing stem dia.  | 6, 8, 10, 12 mm            |                       |                 |
| Withstand pressure | 5kgf/cm <sup>2</sup>       |                       |                 |


**BIMETAL THERMOMETERS (TILTING TYPE)  
MODEL BM-F-70S/BM-F-90S**

## SPECIFICATIONS

| Cat. No.           | 2700-B                     | 2710-B                |
|--------------------|----------------------------|-----------------------|
| <b>Model</b>       | <b>BM-F-70S</b>            | <b>BM-F-90S</b>       |
| Dimensions         | Case                       | 80mm dia.             |
|                    | Dial                       | 70mm dia.             |
| Case construction  | Splash-proof type          |                       |
| Measuring range    | -50 to 300°C (See page 36) |                       |
| Materials          | Case                       | SUS304                |
|                    | Window                     | Glass (option: Acryl) |
|                    | Sensing stem               | SUS304                |
| Sensing stem dia.  | 6, 8, 10, 12 mm            |                       |
| Withstand pressure | 5kgf/cm <sup>2</sup>       |                       |



STANDARD SPECIFICATIONS OF BIMETAL THERMOMETERS

A. STANDARD FOR CASE

| Type | Dial dia. | Model    | Type number |
|------|-----------|----------|-------------|
| T    | Ø40 mm    | BM-T-40S | 2440-B      |
|      | Ø60 mm    | BM-T-60S | 2460-B      |
|      | Ø70 mm    | BM-T-70S | 2470-B      |
|      | Ø90 mm    | BM-T-90S | 2490-B      |
| S    | Ø60 mm    | BM-S-60S | 2465-B      |
|      | Ø70 mm    | BM-S-70S | 2475-B      |
|      | Ø90 mm    | BM-S-90S | 2495-B      |
| F    | Ø70 mm    | BM-F-70S | 2700-B      |
|      | Ø90 mm    | BM-F-90S | 2710-B      |

Type T ... Back connection type  
 Type S ... Bottom connection type  
 Type F ... Tilting type

B. STANDARD FOR SCALE PLATE

| Temp. range (unit: °C) | Minimum div. | Dial diameter (mm) |     |     |     |
|------------------------|--------------|--------------------|-----|-----|-----|
|                        |              | Ø40                | Ø60 | Ø70 | Ø90 |
| -50 to 50              | 2/1          | ○                  | ●   | ○   | ○   |
| -30 to 50              | 1/1          | ○                  | ●   | ○   | ○   |
| 0 to 50                | 1/1          | ○                  | ●   | —   | ○   |
| 0 to 100               | 2/1          | ○                  | ●   | ○   | ○   |
| 0 to 120               | 2/1          | ○                  | ●   | —   | ○   |
| 0 to 150               | 2/1          | ○                  | ●   | ○   | ○   |
| 0 to 200               | 5/1          | ○                  | ●   | ○   | ○   |
| 0 to 300               | 10/1         | ○                  | ○   | ○   | ○   |
| 0 to 400               | 10/1         | —                  | —   | —   | ○   |
| 0 to 500               | 10/1         | —                  | —   | —   | ○   |

● conforms to JIS B7542. Both ● and ○ are available.

C. STANDARD FOR STEM

| Material | Stem diameter (mm) |    |     |     |
|----------|--------------------|----|-----|-----|
|          | Ø6                 | Ø8 | Ø10 | Ø12 |
| SUS 304  | ○                  | ○  | ○   | ○   |
| SUS 316  | ○                  | ○  | ○   | ○   |

○ available

D. STANDARD FOR SCREW

| Name       | Applied bulb dia. (mm) | Material |        |         |
|------------|------------------------|----------|--------|---------|
|            |                        | SUS304   | SUS316 | SUS304* |
| PT · PF1/4 | Ø6                     | ○        | ○      | —       |
| PT · PF3/8 | Ø6, 8                  | ○        | ○      | ○       |
| PT · PF1/2 | Ø6, 8, 10, 12          | ○        | ○      | ○       |
| PT · PF3/4 | Ø6, 8, 10, 12          | ○        | ○      | ○       |
| PT · PF1/1 | Ø8, 10, 12             | ○        | ○      | ○       |

○ available

\* with slide screw type.

SHAPE OF CONNECTOR FOR STEM

B ... For bimetal type L/S ... For remote sensing type ○ ... Available × ... Not available

| Type | Name                                      | Drawing | B | L/S | Type   | Name   | Drawing | B | L/S |
|------|---|---------|---|-----|--|--|---------|---|-----|
| SW   | Union type                                |         | ○ | ○   | SC   | With fixed screwed connection type             |         | ○ | ×   |
| SF   | Semi-union type                           |         | ○ | ○   | UW   | Union type with thermowell                     |         | ○ | ○   |
| NB   | Screwless type                            |         | ○ | ○   | SG   | With fixed position cap swivel connection type |         | ○ | ○   |
| NS   | Plain connection without pipe thread type |         | × | ○   | SG   | Slide screw type                               |         | ○ | ○   |
| FG   | Flange type                               |         | ○ | ○   | FW   | Flange type with thermowell                    |         | ○ | ○   |
| TM   | Bent type                                 |         | × | ○   | * NB Screwless type: Shapes and sizes will change due to the size and material of the case used.<br>** TM Bent type: Specify the length of L longer than 500 mm. |  |         |   |     |

## STANDARD SPECIFICATIONS OF REMOTE SENSING DIAL THERMOMETERS

## A. STANDARD FOR CASE

|                             | Dial dia.         | Model name | Type number |        |
|-----------------------------|-------------------|------------|-------------|--------|
| Wall-mount<br>bottom outlet | Ø75 mm            | LB-75S     | 3050-L      | *1     |
|                             |                   | SB-75S     | 3450-S      |        |
|                             | Ø100 mm           | LB-100S    | 3010-L      |        |
|                             |                   | SB-100S    | 3405-S      |        |
|                             | Ø150 mm           | LB-150S    | 3020-L      |        |
|                             |                   | SB-150S    | 3420-S      |        |
| Flush-mount<br>back outlet  | Ø75 mm            | LD-75S     | 3060-L      | *2     |
|                             |                   | SD-75S     | 3460-S      |        |
|                             | Ø100 mm           | LD-100S    | 3030-L      |        |
|                             |                   | SD-100S    | 3430-S      |        |
|                             | Ø150 mm           | LDS-150    | 3040-L      |        |
|                             |                   | SDS-150    | 3440-S      |        |
| Rigid stem type             | Ø100 mm<br>S type | LAS-100S   | 3012-L      | *3     |
|                             |                   | SAS-100S   | 3412-S      |        |
|                             | Ø100 mm<br>L type | LAL-100S   | 3014-L      |        |
|                             |                   | SAL-100S   | 3414-S      |        |
|                             | Ø100 mm<br>S type | LAT-100S   | 3015-L      |        |
|                             |                   | SAT-100S   | 3415-S      |        |
| Ø100 mm<br>Tilting type     | LAF-100S          | 3058-L     |             |        |
|                             | SAF-100S          | 3458-S     |             |        |
| Ø100 S type                 | SAS-100SO         | 3053-S     | *3          |        |
|                             | Ø100 T type       | SAT-100SO  |             | 3455-S |

\*1 Waterproof type (LBW-100S / SBW-100S) available.  
Waterproof oil-filled type (SBW-100SO) available.

\*2 Waterproof type (LDW-100S / SDW-100S) available.  
Waterproof oil-filled type (SDW-100SO) available.

\*3 Oil-filled for vibration-proof type.

## B-1. STANDARD FOR SCALE PLATE (L: Liquid type)

| Temp. range<br>(unit: °C) | Dial diameter |        |        |
|---------------------------|---------------|--------|--------|
|                           | Ø75mm         | Ø100mm | Ø150mm |
| -150 to 50                | —             | 5/1    | —      |
| -100 to 50                | 2/1           | 2/1    | 2/1    |
| -50 to 50                 | 2/1           | 2/1    | 2/1    |
| -30 to 50                 | 2/1           | 1/1    | 1/1    |
| 0 to 50                   | 2/1           | 1/1    | 1/1    |
| 0 to 80                   | 2/1           | 1/1    | 1/1    |
| 0 to 100                  | 2/1           | 2/1    | 2/1    |
| 0 to 120                  | 2/1           | 2/1    | 2/1    |
| 0 to 150                  | 5/1           | 2/1    | 2/1    |
| 0 to 200                  | 5/1           | 5/1    | 5/1    |
| 0 to 300                  | 10/1          | 10/1   | 10/1   |

\* Other range and Fahrenheit scale available upon quantity.

## B-2. STANDARD FOR SCALE PLATE (S: Mercury type)

| Temp. range<br>(unit: °C) | Dial diameter |        |        |
|---------------------------|---------------|--------|--------|
|                           | Ø75mm         | Ø100mm | Ø150mm |
| -50 to 50                 | 2/1           | 1/1    | 1/1    |
| -30 to 50                 | 2/1           | 1/1    | 1/1    |
| 0 to 50                   | 2/1           | 1/1    | 1/1    |
| 0 to 80                   | 2/1           | 1/1    | 1/1    |
| 0 to 100                  | 2/1           | 1/1    | 1/1    |
| 0 to 120                  | 2/1           | 2/1    | 2/1    |
| 0 to 150                  | 5/1           | 2/1    | 2/1    |
| 0 to 200                  | 5/1           | 2/1    | 2/1    |
| 0 to 300                  | 10/1          | 5/1    | 5/1    |
| 0 to 500                  | 10/1          | 10/1   | 10/1   |
| 0 to 600                  | 10/1          | 10/1   | 10/1   |
| 50 to 650°C/CF            | 10/1          | 10/1   | 10/1   |

\* Other range and Fahrenheit scale available upon quantity.

## C. STANDARD FOR LEAD WIRE

| Name  | Type | Specifications  |
|---|------|---|
| SUS 304 Flexible tube   | FS   | SUS304 lead wire is coated with flexible tube             |
| Flexible tube coated with polyvinyl chloride (P.C.)           | FSB  | Same as above FS type, but coated with P.C.               |
| Lead wire only  | LS   | SUS304 lead wire without any coating                      |
| Lead wire in flexible tube & bulb are coated with P.C.        | BTC  | Same as above FSB type, but bulb is also coated with P.C. |
| Lead wire in flexible tube & bulb are coated with teflon tube | TTC  | Same as above BTC type, but coated with P.C.              |

## D. STANDARD FOR BULB

| Material | Diameter of bulb |       |       |
|----------|------------------|-------|-------|
|          | Ø8mm             | Ø10mm | Ø12mm |
| SUS 304  | ○                | ○     | ○     |
| SUS 316  | ○                | ○     | ○     |

○ available

## E. SHAPE OF CONNECTOR FOR BULB

(Refer to page 36.)

## F. STANDARD FOR SCREW

| Name       | Applied bulb<br>dia. (mm) | Material |        |          |          |
|------------|---------------------------|----------|--------|----------|----------|
|            |                           | SUS304   | SUS316 | SUS304*1 | SUS304*2 |
| PT • PF3/8 | Ø8, 10                    | ○        | ○      | ○        | —        |
| PT • PF1/2 | Ø8, 10, 12                | ○        | ○      | ○        | ○        |
| PT • PF3/4 | Ø8, 10, 12                | ○        | ○      | ○        | ○        |
| PT • PF1/1 | Ø8, 10, 12                | ○        | ○      | ○        | —        |

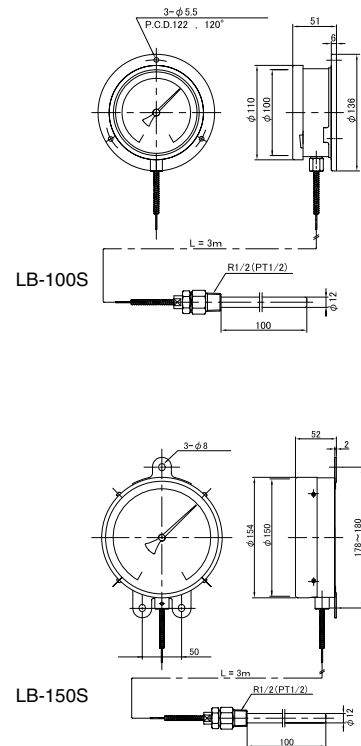
○ available

\*1 with slide screw type

\*2 with fixed position cap swivel connection type



**REMOTE SENSING DIAL THERMOMETERS (STOCK ITEMS)**  
**MODEL LB-100S, LB-150S, SB-100S (WALL-MOUNT BOTTOM OUTLET)**



**MUTUAL SPECIFICATIONS**

| Cat. No.        | 3000-L  | 3020-L  | 3400-S  |
|-----------------|---|---------|---------|
| Model           | LB-100S   | LB-150S | SB-100S |
| Type            | Wall-mount bottom outlet                          |         |         |
| Sensing element | Liquid  | Liquid  | Mercury |
| Dimensions      |   |         |         |
| Case dia.       | 110mm   | 154mm   | 110mm   |
| Dial dia.       | 100mm   | 150mm   | 100mm   |
| Materials       |   |         |         |
| Case            | SUS304  | SUS304  | SUS304  |
| Window          | Glass   | Glass   | Glass   |
| Sensing bulb    | Dimensions: Ø12mm x 100mm(L)<br>Materials: SUS304 |         |         |
| Screw           | PT1/2<br>Materials: SUS304                        |         |         |
| Lead wire       | Length: 3m<br>Materials: SUS304                   |         |         |

| Measuring range        | LB-100S | LB-150S | SB-100S |
|------------------------|---------|---------|---------|
| -50 to 50°C (div. 2°C) | ○       | ○       | —       |
| 0 to 50°C (div. 1°C)   | ○       | ○       | —       |
| 0 to 100°C (div. 1°C)  | ○       | ○       | —       |
| 0 to 150°C (div. 2°C)  | ○       | ○       | —       |
| 0 to 200°C (div. 5°C)  | ○       | ○       | —       |
| 0 to 300°C (div. 5°C)  | ○       | —       | —       |
| 0 to 500°C (div. 10°C) | —       | —       | ○       |

**No. 4300-V REMOTE SENSING THERMOMETER (STOCK ITEMS)**  
**MODEL VB-100P (WALL-MOUNT BOTTOM OUTLET)**



**SPECIFICATIONS**

| Model             | VB-100P  |
|-------------------|--|
| Measuring range   | 0 to 80°C (div.: 1°C)<br>0 to 100°C (div.: 1°C)<br>0 to 120°C (div.: 1°C)                |
| Sensing element   | Vapor  |
| Case dia.         | 110mm (Dial dia.: 100mm)   |
| Case construction | Splash-proof type  |
| Materials Case    | Six nylon + glass 30%  |
| Window            | Glass  |
| Sensing bulb      | Plain connection without screw<br>Dimensions: Ø8 mm x 100 mm(L)<br>CuT. + Nickel plating |
| Lead wire Length  | 2m (but, 1m for the range of 0 to 80°C)  |
| Materials         | CuT. + Nickel plating  |

**REMOTE SENSING DIAL THERMOMETERS (FOR ORDERING)**  
**MODEL LB-75S, LB-100S, LB-150S (WALL-MOUNT BOTTOM OUTLET)**



**SPECIFICATIONS**

| Cat. No           | 3050-L                     | 3010-L                | 3020-L     |
|-------------------|----------------------------|-----------------------|------------|
| Model             | LB-75S                     | LB-100S               | LB-150S    |
| Dimensions        | Case                       | 80mm dia.             | 110mm dia. |
|                   | Dial                       | 75mm dia.             | 100mm dia. |
| Case construction | Splash-proof type          |                       |            |
| Sensing element   | Solid liquid               |                       |            |
| Range             | -50 to 300°C (See page 37) |                       |            |
| Materials         | Case                       | SUS304                |            |
|                   | Window                     | Glass (option: Acryl) |            |
|                   | Sensing stem               | SUS304                |            |
|                   | Lead wire                  | SUS304                |            |
| Sensing stem dia. | 8, 10, 12mm                |                       |            |



**REMOTE SENSING DIAL THERMOMETERS**  
**MODEL LD-75S, LD-100S, LD-150S**  
**(FLUSH-MOUNT BACK OUTLET)**

**SPECIFICATIONS**

| Cat. No           | 3060-L                     | 3030-L                | 3040-L           |
|-------------------|----------------------------|-----------------------|------------------|
| Model             | LD-75S                     | LD-100S               | LD-150S          |
| Dimensions        | Case                       | 80mm dia.             | 110mm dia.       |
|                   | Dial                       | 75mm dia.             | 100mm dia.       |
| Case construction | Splash-proof type          |                       | Indoor use       |
| Sensing element   | Solid liquid               |                       |                  |
| Range             | -50 to 300°C (See page 37) |                       |                  |
| Materials         | Case                       | SUS304                | Aluminum casting |
|                   | Window                     | Glass (option: Acryl) |                  |
|                   | Sensing stem               | SUS304                |                  |
|                   | Lead wire                  | SUS304                |                  |



### RIGID STEM TYPE DIAL THERMOMETERS (OIL-FILLED FOR VIBRATION-PROOF TYPE) MODEL SAS-100SO, SAT-100SO

#### SPECIFICATIONS

| Cat. No           | 3053-L                      | 3453-S                     |
|-------------------|-----------------------------|----------------------------|
| Model             | LAS-100SO                   | SAS-100SO                  |
| Dimensions Case   | 101mm dia.                  |                            |
| Dial              | 90mm dia.                   |                            |
| Case construction | Splash-proof type           |                            |
| Sensing element   | Solid liquid                | Mercury                    |
| Range             | -150 to 300°C (See page 36) | -50 to 650°C (See page 36) |
| Material of oil   | Silicon                     |                            |
| Materials Case    | SUS304                      |                            |
| Window            | Glass (option: Acryl)       |                            |
| Sensing stem      | SUS304                      |                            |
| Sensing stem dia. | 10 mm                       |                            |



### RIGID STEM TYPE DIAL THERMOMETERS MODEL LAF-100S, LAS-100S, LAL-100S, LAT-100S

#### SPECIFICATIONS

| Cat. No           | 3058-L                      | 3012-L   | 3014-L   | 3015-L   |
|-------------------|-----------------------------|----------|----------|----------|
| Model             | LAF-100S                    | LAS-100S | LAL-100S | LAT-100S |
| Connection        | Bottom                      | Bottom   | Bottom   | Back     |
| Stem shape        | Tilting                     | Straight | L shape  | Straight |
| Dimensions Case   | 110mm dia.                  |          |          |          |
| Dial              | 100mm dia.                  |          |          |          |
| Case construction | Splash-proof type           |          |          |          |
| Sensing element   | Solid liquid                |          |          |          |
| Range             | -150 to 300°C (See page 37) |          |          |          |
| Materials Case    | SUS304                      |          |          |          |
| Window            | Glass (option: Acryl)       |          |          |          |
| Sensing stem      | SUS304                      |          |          |          |

### ELECTRIC CONTACT DIAL THERMOMETERS MODEL LB-75E, LB-100SE

#### SPECIFICATIONS

| Cat. No           | 3150-L                      | 3110-L        |
|-------------------|-----------------------------|---------------|
| Model             | LB-75E                      | LB-100SE      |
| Dimensions Case   | 85mm dia.                   | 110mm dia.    |
| Dial              | 75mm dia.                   | 100mm dia.    |
| Case construction | Splash-proof type           |               |
| Sensing element   | Solid liquid                |               |
| Range             | -150 to 300°C (See page 37) |               |
| Contact capacity  | 100VAC: 0.3A                | 100VDC: 0.02A |
| Wire connection   | Terminal block              |               |
| Method            | Contact                     |               |
| Materials Case    | ADC (Aluminum casting)      | SUS304        |
| Window            | Acryl resin                 |               |
| Sensing stem      | SUS304                      |               |
| Lead wire         | SUS304                      |               |
| Sensing stem dia. | 8, 10, 12mm                 |               |



### MICRO SWITCHING CONTACT THERMOMETERS (1 OR 2 POINTS) MODEL SBW-130MS

### MICRO SWITCHING CONTACT THERMOMETERS (1 OR 2 POINTS) WITH TERMINAL BOX MODEL SBW-130MSB

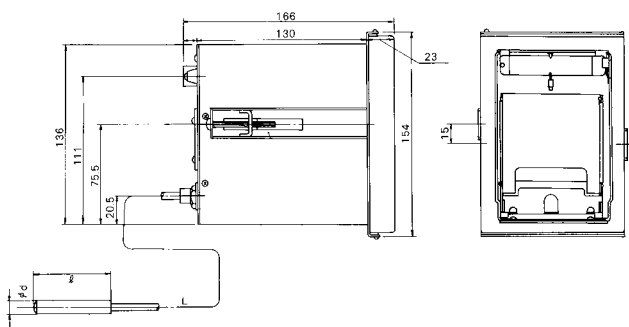


**ULTRA LOW TEMPERATURE RECORDERS**

**No. 3750-L Model LMMC-1 Solid liquid actuated 1 point recording**  
**No. 3350-S Model SMMC-1 Mercury actuated 1 point recording**

**SPECIFICATIONS**

Case: SPCC  
 Finish: Melamin-baked plating  
 Window: AS resin, transparent  
 Lead wire: SUS304 Flexible tube  
 Standard lead length: 2 m  
 Bulb: SUS304 NS type (without thread, refer to page 36)  
 Electric contact point: Lead switch type 1 point contact available at option  
 Chart drive: Quartz motor 1.5 VDC  
 Recording period: 60 days  
 Chart feed speed: 2.5 mm/h  
 Chart paper: Fold type, 73 (W) mm x 4.2 (L) m  
 Recording pen: No. CPV-77 Cartridge pen (violet)  
 Panel-cut size: 92 x 138 mm (DIN)



**TEMPERATURE RANGES AND CHARTS**

| Temp. range (°C) | M/M DIV. | For LMMC-1 | For SMMC-1 |
|------------------|----------|------------|------------|
| -150 to 0        | 5        | 2L-10500   | —          |
| -100 to 50       | 5        | 2L-10040   | —          |
| -50 to 50        | 2.5      | 2L-T40     | 2L-T40     |
| -50 to 100       | 5        | 2L-50100   | 2L-50100   |
| 0 to 100         | 2.5      | 2L-T40     | 2L-T40     |
| 0 to 150         | 5        | 2L-0150    | 2L-0150    |
| 0 to 200         | 5        | 2L-T40     | 2L-T40     |
| 0 to 300         | 10       | —          | 2L-0300    |

(6 pcs./box for 1 year use)

**TEMPERATURE RECORDERS**

**No. 3720-L Model LSY-A1 Solid liquid actuated 1 point recording**  
**No. 3302-L Model LSY-A2 Solid liquid actuated 2 point recording**

\* Model SSY mercury actuated type is available.



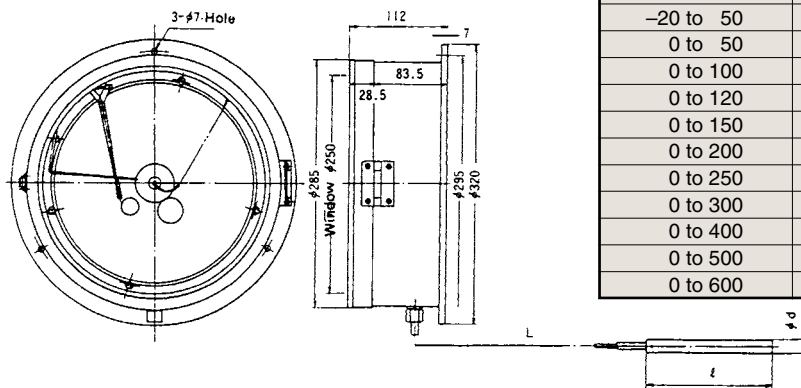
**SPECIFICATIONS**

Case & cover: Aluminium Cast Alloy (ADC)  
 Finish: Melamin-baked plating  
 Window: Glass  
 Lead wire: SUS304 Flexible tube  
 Standard lead length: 3 m (Maximum up to 30 m)  
 Bulb: SUS304 SW (union) type, with screw PT1/2"  
 (Model LSY-A2 has two lead wires as well as two bulbs.)  
 Chart drive: DC or AC (100 VAC) driven  
 Recording pen: Cartridge pen  
 No. 7210-90 (violet) for model LSY-A1  
 No. CPW-II (violet or red) for model LSY-A2

**TEMPERATURE RANGES AND CHARTS**

| Temp. range (°C) | M/M DIV. | 12H/REV. | 24H/REV. | 168H/REV. |
|------------------|----------|----------|----------|-----------|
| -50 to 50        | 2        | —        | 245050   | 1685050   |
| -20 to 50        | 1        | —        | 242050   | 1682050   |
| 0 to 50          | 1        | —        | 2450     | 16850     |
| 0 to 100         | 2        | 12100    | 24100    | 168100    |
| 0 to 120         | 2        | 12120    | 24120    | 168120    |
| 0 to 150         | 5        | 12150    | 24150    | 168150    |
| 0 to 200         | 5        | —        | 24200    | 168200    |
| 0 to 250         | 5        | —        | 24250    | 168250    |
| 0 to 300         | 5        | —        | 24300    | 168300    |
| 0 to 400         | 10       | 12400    | 24400    | —         |
| 0 to 500         | 10       | —        | 24500    | —         |
| 0 to 600         | 10       | —        | 24600    | —         |

(100 sheets/box)





DIAL THERMOMETERS WITH ELECTRIC CONTACTS

○ means available contact arrangements. – not available.

|                               | Dial dia.                  | Model     | Type   | Contact Point Type                      |  |   | Micro Switch Type  |                     |
|-------------------------------|----------------------------|-----------|--------|---|--|---|--------------------|---------------------|
|                               |                            |           |        | Upper or Lower Limit<br>1 contact point | Upper or Lower Limit<br>2 contact points | Upper & Lower Limit<br>1 contact pointt | 1 contact<br>point | 2 contact<br>points |
| ※                             | Ø100mm                     | BM-T-100E | 2685-B | ○                                       | –  | –                                       | –                  | –                   |
| Wall-mounted<br>bottom outlet | Ø75mm                      | LB-75E    | 3150-L | ○                                       | –  | ○                                       | –                  | –                   |
|                               |                            | SB-75E    | 3550-S | ○                                       | ○  | ○                                       | –                  | –                   |
|                               | Ø100mm                     | LB-100SE  | 3510-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SB-100SE  | 3510-S | ○                                       | ○  | ○                                       | –                  | –                   |
| Flush-mounted<br>back outlet  | Ø75mm                      | LD-75E    | 3160-L | ○                                       | –  | ○                                       | –                  | –                   |
|                               |                            | SD-75E    | 3560-S | ○                                       | ○  | ○                                       | –                  | –                   |
|                               | Ø100mm                     | LD-100SE  | 3130-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SD-100SE  | 3530-S | ○                                       | ○  | ○                                       | –                  | –                   |
| Right stem type               | Ø100mm<br>S type           | LAS-100SE | 3112-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SAS-100SE | 3512-S | ○                                       | ○  | ○                                       | –                  | –                   |
|                               | Ø100mm<br>L type           | LAL-100SE | 3114-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SAL-100SE | 3514-S | ○                                       | ○  | ○                                       | –                  | –                   |
|                               | Ø100mm<br>T type           | LAT-100SE | 3115-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SAT-100SE | 3515-S | ○                                       | ○  | ○                                       | –                  | –                   |
|                               | Ø100mm<br>Tilting type     | LAF-100SE | 3158-L | ○                                       | –  | –                                       | –                  | –                   |
| SAF-100SE                     |                            | 3558-S    | ○      | ○                                       | ○  | –                                       | –                  |                     |
| Waterproof<br>type            | Ø130mm w/o<br>terminal box | LBW-130MS | 3094-L | –                                       | –  | –                                       | ○                  | –                   |
|                               |                            | SBW-130MS | 3494-S | –                                       | –  | –                                       | ○                  | ○                   |
|                               | Ø130mm w/o<br>terminal box | LBW-130EB | 3092-L | ○                                       | –  | –                                       | –                  | –                   |
|                               |                            | SBW-130EB | 3492-S | ○                                       | ○  | ○                                       | –                  | –                   |

※ Bimetal type



No. 3990-60 BUZZER BOX MODEL BH-8

This is used together with the thermometer with contact point to let the buzzer with large capacity (8 VA at 100 VAC), etc. give alarm when the fixed temperature is reached. Set the adjustable reference pointer with contact point in the indicator at the fixed point by the front knob. When the indicator rises or falls, the contact point of indicator will contact the contact point of the adjustable reference pointer and make electric circuit to let the current flow into the coil of the buzzer, thus sounding alarm.



RELAY UNIT

This is a relay unit to be combined with the thermometer with upper limit 2 contact points or lower limit 2 contact points to control the temperature to the fixed temperature width. The current which flows into the special circuits of the relay unit (delay circuit and self-hold circuit) becomes weak current and flows into the contact section, so sparks do not occur at the contact section and therefore there are no adhesions or carbons at the contact section. Even if a slight vibration is given to the contact section chattering at the switching action will not occur.

RELAY UNIT MODEL KR-A2

SPECIFICATIONS

Type: No. 3990-02 KR-A2  
Outer dimensions: 120 (W) x 77 (D) x 160 (H) mm  
Weight: 1.1 kg

| Rated            | Braking capacity            |  |
|------------------|-----------------------------|--|
|                  | current (A)                 |  |
| voltage (V)      | resistance load (cos Ø = 1) | inductive load (cos Ø = 0.4)<br>L/R = 7 mS |
| 100VAC<br>200VAC | 10                          | 3  |
| 100VDC<br>200VDC | 0.3<br>0.15                 | 0.11                                       |

• Specify your power requirements.

RELAY UNIT MODEL RU-1

SPECIFICATIONS

Type: No. 3990-01 RU-1  
Outer dimensions: 126 (W) x 80 (D) x 70 (H) mm  
Installation sizes: 116 x 60 (4 x Ø4.5 hole) mm  
Weight: 0.5 kg

| Rated       | Braking capacity            |  |
|-------------|-----------------------------|--|
|             | current (A)                 |  |
| voltage (V) | resistance load (cos Ø = 1) | inductive load (cos Ø = 0.4)<br>L/R = 7 mS |
| 250VAC      | 3<br>(max. 5)               | 1<br>(max. 2)                              |
| 30VDC       | 1<br>(max. 5)               | 1<br>(max. 3)                              |

• Specify your power requirements.



**SWITCH MODE FOR ALARM (FOR DIAL THERMOMETERS WITH ELECTRIC CONTACTS)**

| Switch Mode<br>(pointer moves clockwise)                                | Contact Point System<br>(example for connection)  | Type No. | Switch Mode<br>(pointer moves clockwise)                                     | Contact Point System<br>(example for connection)         | Type No. |
|---|---|----------|--|--|----------|
| Upper limit<br>1 contact point  | Instrument<br>Power Source<br>C H Buzzer Lamp     | CU1      | H1 H2<br>Upper limit<br>2 contact points                                     | Instrument<br>Power Source<br>C H1 H2 Lamp Buzzer        | CU2      |
| Lower limit<br>1 contact point  | Instrument<br>Power Source<br>L C Buzzer Lamp     | CL1      | L H1 H2<br>Upper limit<br>2 contact points<br>Lower limit<br>1 contact point | Instrument<br>Power Source<br>C L H1 H2 Lamp Lamp Buzzer | CU2L1    |
| L H<br>Upper limit<br>1 contact point<br>Lower limit<br>1 contact point | Instrument<br>Power Source<br>C L H Buzzer Buzzer | CUL1     | L2 L1<br>Lower limit<br>2 contact points                                     | Instrument<br>Power Source<br>C L1 L2 Lamp Buzzer        | CL2      |

\* In case a buzzer or lamp etc. with large load are used, use a buzzer box (refer to page 42).

**SWITCH MODE FOR CONTROL (\*1)**

| Switch Mode<br>(pointer moves clockwise)  | Contact Point System + Relay Unit<br>(example for connection)<br>(RU-1) (KR-A2) | Type No.           | Micro Switch System  | Type No.  |
|---|---|--------------------|--|---|
| Upper limit<br>1 contact point  | Instrument<br>Relay Unit<br>Power source<br>Load                                | CH1RU<br>CH1KR     | Red needle<br>Load<br>Power source                         | MS1   |
| Lower limit<br>1 contact point  | Instrument<br>Relay Unit<br>Power source<br>Load                                | CL1RU<br>CL1KR     | Red needle<br>Load<br>Power source                         | MS1<br>becomes the switch mode stated in the left by wiring |
| L H<br>Upper limit<br>1 contact point<br>Lower point<br>1 contact point         | Instrument<br>Relay Unit 2 Circuits<br>Power source<br>Load Load                | CUL1RU<br>CUL1KR   | Green needle<br>Red needle<br>Load Load<br>Power source    |   |
| Green H Red<br>Upper limit<br>1 contact point<br>Lower limit<br>1 contact point |   |                    | L Green needle<br>Red needle<br>Load Load<br>Power source  | MS2   |
| H1 H2<br>Upper limit<br>2 contact points  | Instrument<br>Relay Unit<br>Power source<br>Load                                | CU2RU<br>CU2KR     | H1 Green needle<br>Red needle<br>Load Load<br>Power source | MS2<br>becomes the switch mode stated in the left by wiring |
| H1 H2 L<br>Upper limit<br>2 contact points<br>Lower limit<br>1 contact point    | Instrument<br>Relay Unit 2 Circuits<br>Power source<br>Load Load                | CU2L1RU<br>CU2L1KR |  |   |
| L2 L1<br>Lower limit<br>2 contact points  | Instrument<br>Relay Unit<br>Power source<br>Load                                | CU2RU<br>CU2KR     | L1 Green needle<br>Red needle<br>Load Load<br>Power source |   |

(\*1) -1. Specify type of switch mode for alarm in case relay unit is prepared at your end.  
-2. RU and KR in the type number represent type (page 42) of relay unit.

**No. 6400-00 HANDY TYPE DIGITAL PH METER MODEL SK-620PH**

**SPECIFICATIONS**

Measuring range: pH: 0.00 to 14.00pH  
 Temp.: 0.0 to 50.0°C  
 Accuracy: pH: ±(0.3+1 digit)pH at 0 to 2pH  
 ±(0.1+1 digit)pH at 2 to 12pH  
 ±(0.4+1 digit)pH at 12 to 14pH  
 Temp.: ±0.5°C at 20 to 30°C, ±0.7°C at other  
 Resolution: 0.01pH / 0.1°C  
 Elements: pH: Glass electrode  
 Temp.: Thermistor  
 Power requirements: 9 VDC (6F22 (006P) x 1 pc.) or AC adapter (optional)  
 Materials: Case: ABS resin Probe: Glass  
 Dimensions: 72(W) x 182(H) x 31.5(D) mm  
 Weight: about 220 g (including battery)  
 Standard accessories: PHP-31 probe, bottle for glass electrode, vinyl cover, carrying case, 006P battery x 1, Standard liquid set (Phthalate solution, Neutral phosphate solution, Carbonate solution)



**No. 6410-00 PEN TYPE DIGITAL PH METER MODEL SK-610PHII**

**SPECIFICATIONS**

Measuring range: pH: 2.0 to 12.0pH  
 Temp.: 0.0 to 50.0°C  
 Accuracy: pH: ±2pH  
 Temp.: ±0.6°C at 20 to 30°C, ±0.8°C at other  
 Resolution: 0.01pH / 0.1°C  
 Elements: pH: Glass electrode  
 Temp.: Thermistor  
 Power requirements: 6VDC (3V Lithium Battery CR2032 x 2)  
 Materials: Case: ABS resin Probe: Glass  
 Dimensions: 37(W) x 150(H) x 42(D) mm  
 Weight: about 77 g (including batteries)  
 Standard accessories: Vinyl pouch, lithium battery x 2



**POCKET TYPE DIGITAL PH METERS**

- No. 6416-00 MODEL SK-630PH**
- No. 6418-00 MODEL SK-631PH**
- No. 6420-00 MODEL SK-632PH**

**FEATURES**

- Calibration function
- HOLD function
- Auto power-off function
- Auto temperature compensation  
 (Not applicable for model SK-630PH)



SK-630PH

SK-631PH

SK-632PH

**SPECIFICATIONS**

| Model                |       | SK-630PH                                | SK-631PH      | SK-632PH        |
|----------------------|-------|---|---------------|-----------------|
| Measuring range      | pH    | 2.0 to 12.0pH                           | 2.0 to 12.0pH | 2.00 to 12.00pH |
|                      | Temp. | —                                       | 0.0 to 50.0°C | 0.0 to 50.0°C   |
| Accuracy             | pH    | ±0.6pH                                  | ±0.5pH        | ±0.4pH          |
|                      | Temp. | —                                       | ±1.0°C        | ±0.5°C          |
| Resolution           | pH    | 0.1pH                                   | 0.1pH         | 0.01pH          |
|                      | Temp. | —                                       | 0.5°C         | 0.1°C           |
| Elements             | pH    | Glass electrode                         |               |                 |
|                      | Temp. | —                                       | Thermistor    |                 |
| Measuring ambient    |       | 0 to 50°C                               |               |                 |
| Power requirement    |       | 6VDC (Alkaline Battery LR44 1.5VDC x 4) |               |                 |
| Battery life         |       | about 20 hours in continuous use        |               |                 |
| Materials            |       | Case: ABS resin Sensor: Glass           |               |                 |
| Dimensions           |       | 36 (W) x 150 (H) x 25 (D) mm            |               |                 |
| Weight               |       | about 65 g (including batteries)        |               |                 |
| Standard accessories |       | Alkaline Battery LR44 (GPS76E) x 4      |               |                 |



## R SERIES HAND HELD REFRACTOMETERS

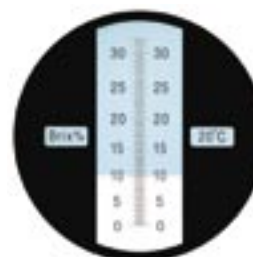
|             |               |             |               |
|-------------|---------------|-------------|---------------|
| No. 0180-00 | MODEL SK-100R | No. 0186-00 | MODEL SK-106R |
| No. 0181-00 | MODEL SK-101R | No. 0187-00 | MODEL SK-107R |
| No. 0182-00 | MODEL SK-102R | No. 0189-00 | MODEL SK-109R |
| No. 0184-00 | MODEL SK-104R | No. 0190-00 | MODEL SK-200R |

The R Series Hand Held Refractometers measure liquid concentration by determining the refractive index of the liquid, based on the principle of total internal reflection.



## FEATURES

- Easy to read boundary of the blue field of the scale
- Light body
- The body is made with environment-friendly materials.
- Auto temperature correction function in the range of 10 to 30°C (Not available for SK-106R and SK-107R)



Scale

## SPECIFICATIONS

| Cat. No.             | 0180-00  | 0181-00       | 0182-00      | 0184-00      | 0186-00  | 0187-00       | 0189-00  | 0190-00           |
|----------------------|--|---------------|--------------|--------------|--|---------------|----------|-------------------|
| Model                | SK-100R  | SK-101R       | SK-102R      | SK-104R      | SK-106R  | SK-107R       | SK-109R  | SK-200R           |
| Scale (Brix)         | 0.0 to 32.0%   | 28.0 to 62.0% | 0.0 to 18.0% | 0.0 to 10.0% | 58.0 to 92.0%                                      | 45.0 to 82.0% | 0 to 50% | 0.0 to 28.0% (*1) |
| Min. Scale           | 0.2%   | 0.2%          | 0.1%         | 0.1%         | 0.5%   | 0.5%          | 1%       | 0.2%              |
| Grip dia.            | 30 mm  | 30 mm         | 30 mm        | 30 mm        | 26 mm  | 26 mm         | 30 mm    | 30 mm             |
| Length               | 160 mm   | 160 mm        | 195 mm       | 195 mm       | 130 mm   | 145 mm        | 150 mm   | 160 mm            |
| Weight               | 110 g  | 110 g         | 125 g        | 125 g        | 90 g   | 90 g          | 105 g    | 110 g             |
| Materials            | Main unit: Aluminum alloy<br>Prism: Optical glass<br>Adjusting screw: Stainless steel  |               |              |              | Cover plate: Polycarbonate<br>Grip: Natural rubber |               |          |                   |
| Standard accessories | Wipe-out cloth, carrying case, screwdriver, dropper, distilled water(*2), saturation salt water(*3), oil for adjustment (*4), block for adjustment(*5) |               |              |              |  |               |          |                   |

(\*1) Salt concentration

(\*2) Applicable for SK-100R, SK-102R, SK-104R, SK-109R and SK-200R

(\*3) Applicable for SK-101R only

(\*4) Applicable for SK-106R and SK-107R

(\*5) Applicable for SK-106R and SK-107R



Accessories

INDEX (CATALOG NO.)

| Cat. No. | Page | Model No.      | Cat. No. | Page | Model No.              | Cat. No.  | Page | Model No.              | Cat. No. | Page | Model No.             |
|----------|------|----------------|----------|------|------------------------|-----------|------|------------------------|----------|------|-----------------------|
| 0020-10  | 3    |                | 3050-L   | 39   | LB-75S                 | 7450-00   | 24   | SK-RHG                 | 8072-00  | 11   | SWP II-02M            |
| 0021-10  | 3    |                | 3053-L   | 40   | LAS-100SO              | 7540-00   | 23   | HIGHEST I              | 8073-00  | 11   | SWP II-03             |
| 0022-08  | 3    |                | 3058-L   | 40   | LAF-100S               | 7542-00   | 23   | HIGHEST II             | 8074-00  | 11   | SWP II-04M            |
| 0022-38  | 3    |                | 3060-L   | 39   | LD-75S                 | 7562-00   | 23   | PALMA II               | 8075-00  | 11   | SWP II-05M            |
| 0110     | 3    |                | 3110-L   | 40   | LB-100SE               | 7610-20   | 26   | ANEROID                | 8076-00  | 11   | SWP II-06M            |
| 0180-00  | 45   | SK-100R        | 3150-L   | 40   | LB-75E                 | 7612-00   | 26   | BAROMEX                | 8077-10  | 11   | SWP II-07             |
| 0181-00  | 45   | SK-101R        | 3302-L   | 41   | LSY-A2                 | 7640-00   | 26   | FORTIN                 | 8077-20  | 11   | SWP II-08             |
| 0182-00  | 45   | SK-102R        | 3350-S   | 41   | SMMC-1                 | 7683-01   | 27   | SK-28V                 | 8077-30  | 11   | SWP II-09             |
| 0184-00  | 45   | SK-104R        | 3372-00  | 27   | SK-ATV                 | 7693-00   | 27   | SK-73D                 | 8077-40  | 11   | SWP II-10             |
| 0186-00  | 45   | SK-106R        | 3400-S   | 38   | SB-100S                | 7720-00   | 29   |                        | 8098-03  | 9    | SKR-SD10-03           |
| 0187-00  | 45   | SK-107R        | 3453-S   | 40   | SAS-100SO              | 7730-00   | 29   |                        | 8111-00  | 7    | SK-110TRH II-01       |
| 0189-00  | 45   | SK-109R        | 3494-S   | 40   | SBW-130MS              | 7760-00   | 30   |                        | 8112-00  | 7    | SK-110TRH II-02       |
| 0190-00  | 45   | SK-200R        | 3498-S   | 40   | SBW-130MSB             | 7760-01   | 30   |                        | 8113-00  | 7    | SK-110TRH II-03       |
| 1013-00  | 23   | TH-300         | 3720-L   | 41   | LSY-A1                 | 7763-2    | 29   |                        | 8114-00  | 7    | SK-110TRH II-04       |
| 1050-00  | 23   | PC-5000TRH II  | 3750-L   | 41   | LMMC-1                 | 7790-00   | 30   |                        | 8115-00  | 7    | SK-110TRH II-05       |
| 1060-00  | 25   | PC-6800        | 3990-01  | 42   | RU-1                   | 7802-00   | 28   |                        | 8161-00  | 4    | SK-L200T II           |
| 1506-00  | 25   | U-TUBE         | 3990-02  | 42   | KR-A2                  | 7804-2-00 | 28   |                        | 8162-00  | 6    | SK-LTII-1             |
| 1518-00  | 25   |                | 3990-60  | 42   | BH-8                   | 7820-00   | 31   |                        | 8163-00  | 6    | SK-LTII-2             |
| 1519-00  | 25   | SK-1           | 6000-00  | 21   | SK-120CHB              | 7932-02   | 31   |                        | 8164-00  | 6    | SK-LTII-3             |
| 1740-50  | 25   | PC-3500        | 6400-00  | 44   | SK-620PH               | 7980-S-40 | 31   |                        | 8165-00  | 6    | SK-LTII-4             |
| 2010-B   | 33   | BM-S-90S       | 6410-00  | 44   | SK-610PH II            | 8009-30   | 13   | MC-T100 III            | 8166-00  | 6    | SK-LTII-5             |
| 2030-B   | 33   | BM-T-90S       | 6416-00  | 44   | SK-630PH               | 8009-32   | 13   | MC-T101 III            | 8167-00  | 6    | SK-LTII-6             |
| 2060-B   | 34   | POCKET BIMETAL | 6418-00  | 44   | SK-631PH               | 8009-34   | 13   | MC-T101W III           | 8175-00  | 4    | SK-L200TH II $\alpha$ |
| 2075-B   | 32   | BM-T-75P       | 6420-00  | 44   | SK-632PH               | 8009-36   | 13   | MC-T201 III            | 8176-00  | 6    | SK-LTH II $\alpha$ -1 |
| 2078-B   | 32   | BM-S-75P       | 7006-00  | 20   | MINI- $\alpha$ (blue)  | 8009-38   | 13   | MC-T102 III            | 8177-00  | 6    | SK-LTH II $\alpha$ -2 |
| 2080-B   | 32   | BM-T-100P      | 7006-10  | 20   | MINI- $\alpha$ (mocha) | 8009-42   | 13   | MC-T103 III            | 8178-00  | 6    | SK-LTH II $\alpha$ -3 |
| 2085-B   | 32   | BM-S-100P      | 7008-00  | 20   | MINI-CUBE              | 8009-44   | 13   | MC-K100 III            | 8211-00  | 16   | SK-8110               |
| 2110-B   | 33   | BM-T-75        | 7012-00  | 20   | AURORA 90 III          | 8009-46   | 13   | MC-K100W III           | 8212-00  | 16   | SK-8120               |
| 2150-B   | 34   |                | 7012-60  | 22   | 1 month chart          | 8009-48   | 13   | MC-K101 III            | 8213-00  | 16   | SK-8130               |
| 2180-B   | 34   |                | 7012-70  | 22   | 3 month chart          | 8009-50   | 12   | DPU-414                | 8214-00  | 16   | SK-8140               |
| 2250-10  | 34   |                | 7200-00  | 21   | NSII-ES1               | 8009-51   | 13   | MC-K102 III            | 8260-00  | 15   | SK-8700               |
| 2340-B   | 34   |                | 7200-62  | 22   | 7 day chart            | 8009-52   | 13   | MC-K103 III            | 8920     | 9    | SK-RHC                |
| 2440-B   | 35   | BM-T-40S       | 7200-64  | 22   | 32 day chart           | 8009-54   | 13   | MC-K104 III            | 8921-00  | 9    | SK-RHCS-1             |
| 2460-B   | 35   | BM-T-60S       | 7202-00  | 21   | NSII-ES2               | 8009-56   | 13   | MC-K105 III            | 8922-00  | 9    | SK-RHCS-2             |
| 2465-B   | 35   | BM-S-60S       | 7202-62  | 22   | 7 day chart            | 8009-60   | 13   | MC-K107 III            |          |      |                       |
| 2470-B   | 35   | BM-T-70S       | 7210-00  | 18   | NSII-Q                 | 8009-71   | 13   | MC-K301 III            |          |      |                       |
| 2475-B   | 35   | BM-S-70S       | 7210-60  | 22   | 1 day chart            | 8009-75   | 13   | MC-K305 III            |          |      |                       |
| 2490-B   | 35   | BM-T-90S       | 7210-62  | 22   | 7 day chart            | 8009-77   | 13   | MC-K307 III            |          |      |                       |
| 2495-B   | 35   | BM-S-90S       | 7210-64  | 22   | 32 day chart           | 8009-78   | 13   | MC-K308 III            |          |      |                       |
| 2700-B   | 35   | BM-F-70S       | 7211-00  | 18   | NSII-Q                 | 8014-03   | 14   | SK-1110                |          |      |                       |
| 2710-B   | 35   | BM-F-90S       | 7215-00  | 18   | NSII-S                 | 8014-04   | 14   | SK-1120                |          |      |                       |
| 3000-L   | 38   | LB-100S        | 7230-00  | 19   | NSII-TQ                | 8014-30   | 14   | SK-K010                |          |      |                       |
| 3010-L   | 39   | LB-100S        | 7234-00  | 19   | NSII-HQ                | 8014-31   | 14   | SK-K020                |          |      |                       |
| 3012-L   | 40   | LAS-100S       | 7237-00  | 19   | NSII-BQ                | 8017-00   | 12   | SK-1250MC III $\alpha$ |          |      |                       |
| 3014-L   | 40   | LAL-100S       | 7238-20  | 22   | DUSTPROOF COVER        | 8062-00   | 10   | SK-250WP II-N          |          |      |                       |
| 3015-L   | 40   | LAT-100S       | 7238-22  | 18   | AXIAL AC FAN           | 8064-00   | 10   | SK-250WP II-T          |          |      |                       |
| 3020-L   | 38   | LB-150S        | 7308-00  | 25   | MIN-MAX                | 8066-00   | 10   | SK-250WP II-R          |          |      |                       |
| 3030-L   | 39   | LD-100S        | 7320-00  | 25   | AUGUST                 | 8068-00   | 10   | SK-250WP II-K          |          |      |                       |
| 3040-L   | 39   | LD-150S        | 7435-00  | 8    | SK-5RAD-SP             | 8071-00   | 11   | SWP II-01M             |          |      |                       |

| Model No.     | Page | Cat. No. | Model No.              | Page | Cat. No. | Model No.              | Page | Cat. No. | Model No.  | Page | Cat. No. |
|---------------|------|----------|------------------------|------|----------|------------------------|------|----------|------------|------|----------|
| ANEROID       | 26   | 7610-20  | MC-K104 III            | 13   | 8009-54  | SK-1120                | 14   | 8014-04  | SWP II-05M | 11   | 8075-00  |
| AUGUST        | 25   | 7320-00  | MC-K105 III            | 13   | 8009-56  | SK-120CHB              | 21   | 6000-00  | SWP II-06M | 11   | 8076-00  |
| AURORA 90 III | 20   | 7012-00  | MC-K107 III            | 13   | 8009-60  | SK-1250MC III $\alpha$ | 12   | 8017-00  | SWP II-07  | 11   | 8077-10  |
| AXIAL AC FAN  | 18   | 7210-20  | MC-K301 III            | 13   | 8009-71  | SK-200R                | 45   | 0190-00  | SWP II-08  | 11   | 8077-20  |
| BAROMEX       | 26   | 7612-00  | MC-K305 III            | 13   | 8009-75  | SK-250WP II-K          | 10   | 8068-00  | SWP II-09  | 11   | 8077-30  |
| BH-8          | 42   | 3990-60  | MC-K307 III            | 13   | 8009-77  | SK-250WP II-N          | 10   | 8062-00  | SWP II-10  | 11   | 8077-40  |
| BM-F-70S      | 35   | 2700-B   | MC-K308 III            | 13   | 8009-78  | SK-250WP II-R          | 10   | 8066-00  | TH-300     | 23   | 1013-00  |
| BM-F-90S      | 35   | 2710-B   | MC-T100 III            | 13   | 8009-30  | SK-250WP II-T          | 10   | 8064-00  | U-TUBE     | 25   | 1506-00  |
| BM-S-100P     | 32   | 2085-B   | MC-T101 III            | 13   | 8009-32  | SK-28V                 | 27   | 7683-01  |            |      |          |
| BM-S-60S      | 35   | 2465-B   | MC-T101W III           | 13   | 8009-34  | SK-5RAD-SP             | 8    | 7435-00  |            |      |          |
| BM-S-70S      | 35   | 2475-B   | MC-T102 III            | 13   | 8009-38  | SK-610PH II            | 44   | 6410-00  |            |      |          |
| BM-S-75P      | 32   | 2078-B   | MC-T103 III            | 13   | 8009-42  | SK-620PH               | 44   | 6400-00  |            |      |          |
| BM-S-90S      | 33   | 2010-B   | MC-T201 III            | 13   | 8009-36  | SK-630PH               | 44   | 6416-00  |            |      |          |
| BM-S-90S      | 35   | 2495-B   | MINI-CUBE              | 20   | 7008-00  | SK-631PH               | 44   | 6418-00  |            |      |          |
| BM-T-100P     | 32   | 2080-B   | MINI- $\alpha$ (blue)  | 20   | 7006-00  | SK-632PH               | 44   | 6420-00  |            |      |          |
| BM-T-40S      | 35   | 2440-B   | MINI- $\alpha$ (mocha) | 20   | 7006-10  | SK-73D                 | 27   | 7693-00  |            |      |          |
| BM-T-60S      | 35   | 2460-B   | MIN-MAX                | 25   | 7308-00  | SK-8110                | 16   | 8211-00  |            |      |          |
| BM-T-70S      | 35   | 2470-B   | NS II-BQ               | 19   | 7237-00  | SK-8120                | 16   | 8212-00  |            |      |          |
| BM-T-75       | 33   | 2110-B   | NS II-ES1              | 21   | 7200-00  | SK-8130                | 16   | 8213-00  |            |      |          |
| BM-T-75P      | 32   | 2075-B   | NS II-ES2              | 21   | 7202-00  | SK-8140                | 16   | 8214-00  |            |      |          |
| BM-T-90S      | 33   | 2030-B   | NS II-HQ               | 19   | 7234-00  | SK-8700                | 15   | 8260-00  |            |      |          |
| BM-T-90S      | 35   | 2490-B   | NS II-Q                | 18   | 7210-00  | SK-ATV                 | 27   | 3372-00  |            |      |          |
| DPU-414       | 12   | 8009-50  | NS II-Q                | 18   | 7211-00  | SK-K010                | 14   | 8014-30  |            |      |          |
| FORTIN        | 26   | 7640-00  | NS II-S                | 18   | 7215-00  | SK-K020                | 14   | 8014-31  |            |      |          |
| HIGHEST I     | 23   | 7540-00  | NS II-TQ               | 19   | 7230-00  | SK-L200T II            | 4    | 8161-00  |            |      |          |
| HIGHEST II    | 23   | 7542-00  | PALMA II               | 23   | 7562-00  | SK-L200TH II $\alpha$  | 4    | 8175-00  |            |      |          |
| KR-A2         | 42   | 3990-02  | PC-3500                | 25   | 1740-50  | SK-LT II-1             | 6    | 8162-00  |            |      |          |
| LAF-100S      | 40   | 3058-L   | PC-5000TRH II          | 23   | 1050-00  | SK-LT II-10            | 6    |          |            |      |          |
| LAL-100S      | 40   | 3014-L   | PC-6800                | 25   | 1060-00  | SK-LT II-2             | 6    | 8163-00  |            |      |          |
| LAS-100S      | 40   | 3012-L   | POCKET BIMETAL         | 34   | 2060-B   | SK-LT II-3             | 6    |          |            |      |          |
| LAS-100SO     | 40   | 3053-L   | RU-1                   | 42   | 3990-01  | SK-LT II-4             | 6    |          |            |      |          |
| LAT-100S      | 40   | 3015-L   | SAS-100SO              | 40   | 3453-L   | SK-LT II-5             | 6    |          |            |      |          |
| LB-100S       | 38   | 3000-L   | SB-100S                | 38   | 3400-S   | SK-LT II-6             | 6    |          |            |      |          |
| LB-100S       | 39   | 3010-L   | SBW-130MS              | 40   | 3494-S   | SK-LT II-7             | 6    |          |            |      |          |
| LB-100SE      | 40   | 3110-L   | SBW-130MSB             | 40   | 3498-S   | SK-LT II-8             | 6    |          |            |      |          |
| LB-150S       | 38   | 3020-L   | SK-1                   | 25   | 1519-00  | SK-LT II-9             | 6    |          |            |      |          |
| LB-75E        | 40   | 3150-L   | SK-100R                | 45   | 0180-00  | SK-LTH II $\alpha$ -1  | 6    | 8176-00  |            |      |          |
| LB-75S        | 39   | 3050-L   | SK-101R                | 45   | 0181-00  | SK-LTH II $\alpha$ -2  | 6    | 8177-00  |            |      |          |
| LD-100S       | 39   | 3030-L   | SK-102R                | 45   | 0182-00  | SK-LTH II $\alpha$ -3  | 6    | 8178-00  |            |      |          |
| LD-150S       | 39   | 3040-L   | SK-104R                | 45   | 0184-00  | SK-RHC                 | 9    | 8920     |            |      |          |
| LD-75S        | 39   | 3060-L   | SK-106R                | 45   | 0186-00  | SK-RHCS-1              | 9    | 8921-00  |            |      |          |
| LMMC-1        | 41   | 3750-L   | SK-107R                | 45   | 0187-00  | SK-RHCS-2              | 9    | 8922-00  |            |      |          |
| LSY-A1        | 41   | 3720-L   | SK-109R                | 45   | 0189-00  | SK-RHG                 | 24   | 7450-00  |            |      |          |
| LSY-A2        | 41   | 3302-L   | SK-110TRH II-01        | 7    | 8111-00  | SKR-SD10-03            | 9    | 8098-03  |            |      |          |
| MC-K100 III   | 13   | 8009-44  | SK-110TRH II-02        | 7    | 8112-00  | SMMC-1                 | 41   | 3350-S   |            |      |          |
| MC-K100W III  | 13   | 8009-46  | SK-110TRH II-03        | 7    | 8113-00  | SWP II-01M             | 11   | 8071-00  |            |      |          |
| MC-K101 III   | 13   | 8009-48  | SK-110TRH II-04        | 7    | 8114-00  | SWP II-02M             | 11   | 8072-00  |            |      |          |
| MC-K102 III   | 13   | 8009-51  | SK-110TRH II-05        | 7    | 8115-00  | SWP II-03              | 11   | 8073-00  |            |      |          |
| MC-K103 III   | 13   | 8009-52  | SK-1110                | 14   | 8014-03  | SWP II-04M             | 11   | 8074-00  |            |      |          |



## INFORMATION

### HOW TO ORDER

#### CATALOG ITEMS:

To order instruments, parts or accessories, please indicate the appropriate model number and name. Where applicable, indicate power requirements, English or metric units, or any optional features listed in the specifications.

#### CUSTOM SYSTEMS:

Upon request, SATO KEIRYOKI MFG. CO., LTD. will provide a complete quotation on individual system requirements. The quote will detail all necessary components, list fixed prices for a given period of time, and provide ordering instructions.

#### PRICES:

The prices listed in Price List are subject to change without notice. It is suggested to verify prices prior to ordering, at which time the price quoted will normally be guaranteed for 30 days or longer. Prices include the cost of standard export packing. Our shipment terms would be F.O.B. Japanese port.

#### TERMS OF PAYMENT:

Shipment to foreign destinations are against cash transfer to our bank account.

#### BANK INFORMATION:

Beneficiary: Sato Keiryoki Mfg. Co., Ltd.  
3, Nishi Fukudacho, Kanda, Chiyodaku, Tokyo 101-0037 Japan  
Tel: +81-3-3254-8117

Bank name: The Bank of Tokyo-Mitsubishi UFJ Limited, Muromachi Branch  
1-3-2, Nihonbashi Hongokucho, Chuoku, Tokyo 103-0021 Japan

Account No.: 308700  
Swift address: BOTKJPJT

#### SHIPPING:

Unless specific instructions accompany the order, we will use our judgment as to the best method of shipment. Export shipments in wooden case packing may incur an extra packing charge.

#### SPECIFICATIONS:

We reserve the right to discontinue any item without prior notice and to change specifications as required without incurring any obligation to incorporate new features on instruments or equipment previously sold.

#### SERVICE:

We, SATO KEIRYOKI MFG. CO., LTD., maintain a complete repair and calibration service in our factories.

## 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 shipment. 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 - 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.

#### 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.

© Copyright 2010 SATO KEIRYOKI MFG. CO., LTD. All rights reserved.

The specifications, descriptions, drawings, ordering information and part numbers within this document are subject to change without notice.

This publication supersedes all previous publications on this subject.



Distributed by

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

3, Nishi Fukudacho, Kanda, Chiyodaku, Tokyo 101-0037 JAPAN  
TEL:+81(0)3-3254-8117 FAX:+81(0)3-3254-8123

ALL SPECIFICATIONS SUBJECT TO CHANGE WITH OR WITHOUT NOTICE.