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No. 514

General Catalog



Corporate Profile

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Establishment	April, 1958

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The certificates we have been registered.

JCSS



ISO9001



ISO14001



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**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 calibration certificate is issued by manufacturer.


**No. 0021-10 STANDARD THERMOMETER 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 thermometers are etched-stem type.

No. 0110 ALCOHOL-FILLED ETCHED-STEM THERMOMETERS

— Total immersion —

- * Scale is etched on the surface of the glass tube

Minimum quantity: 10 pcs.

Cat No.	Range	Div.	Length	Metal case
0110-00	0 to 100°C	1°C	300mm	No. 0955-00 for 300mm thermometer
0120-00	-5 to 105°C	1°C	300mm	
0140-00	-20 to 105°C	1°C	300mm	
0220-00	0 to 50°C	1°C	300mm	
0230-00	-20 to 50°C	1°C	300mm	
0240-00	-30 to 50°C	1°C	300mm	
0260-00	-50 to 50°C	1°C	300mm	No. 0956-00 packed in a slide pack for 300mm thermometer
0280-00	0 to 150°C	1°C	300mm	
0290-00	0 to 200°C	1°C	300mm	
0315-00	-30 to 105°C	1°C	300mm	
0320-00	-70 to 50°C	1°C	300mm	
0330-00	-40 to 50°C	1°C	300mm	
0335-00	-80 to 50°C	1°C	300mm	No. 1710-90 for 150mm thermometer
0340-00	-100 to 50°C	1°C	300mm	
0600-00	-20 to 50°C	1°C	150mm	
0610-00	0 to 50°C	1°C	150mm	
0620-00	0 to 100°C	1°C	150mm	

Material of the metal cases: SUS304



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

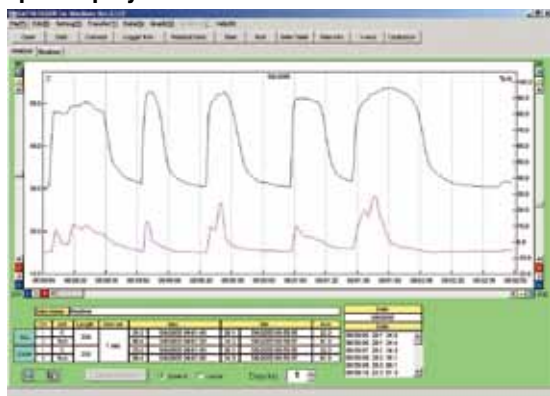
No. 8175-00 DATALOGGER MODEL SK-L200THII α (Temperature and humidity measurement type)



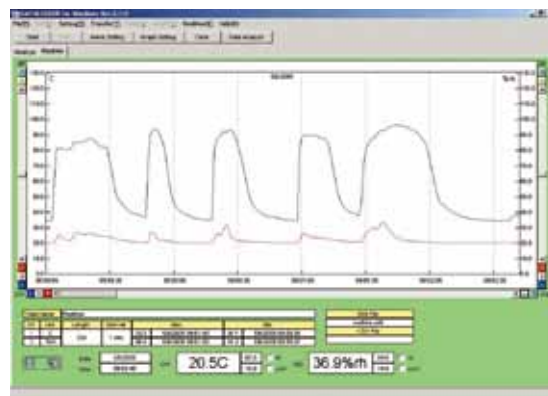
FEATURES

- The memory capacity is 8100 lines of data per channel.
The data for about 506 days can be stored with logging interval of 90 minutes.
- The method of storing data is selectable among four logging options; Once, Repeatedly, Ends at and By pages.
- The software for data analysis and real-time transmission is provided 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.
- The 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.
- The probes are interchangeably used with the 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.
- Even if 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 the data analysis software attached, the 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 (DC Type)



Cat. No.	8161-00	8175-00
Model	SK-L200T II (for temperature)	SK-L200TH II α (for temperature and humidity)
Display range	−45 to 205.0°C (depending on a probe connected)	−15 to 65.0°C, 10 to 99.9%RH (depending on a probe connected)
Resolution (Temp.)	0.1°C (−9.9 to 205.0°C) 1°C (−10°C or less)	0.1°C (−9.9 to 65.0°C) 1°C (−10°C or less)
Resolution (Humi.)	—	0.1%RH (15.0 to 99.9%RH) 1%RH (15.0%RH or less)
Accuracy (Temp.)	±(0.1°C + 1 digit)	±(0.1°C + 1 digit)
Accuracy (Humi.)	—	±(0.1%RH + 1 digit)
Applicable probes	SK-LT II series probes	SK-LTH II α 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) CALL (call for the current measurement data during logging), ID number 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	
Memory capacity	Up to 8100 lines of data depending on the logging option (four logging options: Once, Repeatedly, Ends at, By pages)	
Logging intervals	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. 90 min.	
Communication	USB	
Operating ambient	−10 to 60°C, no condensing	
Storage ambient	0 to 50°C	
Power requirement	"AAA" size alkaline battery x 2	
Battery life	- Under continuous measurement mode : more than 500 hours - Under logging mode: possible to log 8100 data with every logging interval (ex.: about 506 days with logging interval of 90 minutes.)	
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. Main Units (AC/DC Type)

No. 8161-10 Model SK-L200TIID
(Temperature measurement type)



No. 8175-10 Model SK-L200THIIαD
(Temperature/humidity measurement type)



* Power requirements: "AAA" size battery x 2 or AC adapter (option)
(Other specifications are the same as SK-L200TII and SK-L200THII α respectively)

3. No. 8161-50 AC adapter Model AD0601000-2 (input: 100 to 240VAC)

Applicable to SK-L200TIID and SK-L200THIIαD dataloggers

4. Standard Probes



Cat. No.	8162-00	8163-00	8176-00	8177-00	8178-00
Model	SK-LT II-1 Plug-in type	SK-LT II-2 w/ sensor cord	SK-LTH II α-1 Plug-in type	SK-LTH II α-2 w/ sensor cord	SK-LTH II α-3 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) ±1°C (other than above)	±0.5°C (15.0 to 35.0°C) ±2°C (lower than −10°C) ±1°C (other than above)	±0.5°C (20.0 to 30.0°C) ±1°C (other than above)	±0.5°C (15.0 to 35.0°C) ±1°C (other than above)	
Accuracy (Humi.)	—	—	±3%RH (20.0 to 30.0°C, 30 to 90%RH) ±7%RH (lower than 10.0°C, higher than 50.0°C) ±5%RH (other than above)	±3%RH (15.0 to 35.0°C, 30 to 90%RH) ±7%RH (lower than 0°C, higher than 50.0°C) ±5%RH (other than above)	
Dimensions	25W x 70H x 20D mm	Sensing part: (tip) Ø5 x L20 mm Cord Length: 1.5 m	25W x 70H x 20D mm	Sensing part: 18W x 51H x 10D mm Cord Length: 1.5 m	Ø8 x L35 mm Cord Length: 1.5 m
Weight	Approx. 13g	Approx. 43g	Approx. 15g	Approx. 65g	Approx. 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

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



Sensing stem: Ø3 x 150 mm (w/ grip)

No.8164-00 Penetration type Model SK-LT II-3

– Water protection level IP X5 –

Measuring range : −40 to 105.0°C

Cord length : 3.75 m

No.8165-00 Penetration type Model SK-LT II-4

– Water protection level IP X5 –

Measuring range : −40 to 105.0°C

Cord length : 5.0 m

**No.8167-01 for High temperature Model SK-LT II-7**

– 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

**No.8167-02 for High temperature Model SK-LT II-8**

– 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

No.8166-00 Cylindrical tip type Model SK-LT II-5

– Water protection level IP X7 –

Measuring range : −40 to 105.0°C

Cord length : 3.75 m

No.8167-00 Cylindrical tip type Model SK-LT II-6

– Water protection level IP X7 –

Measuring range : −40 to 105.0°C

Cord length : 5.0 m

No.8167-03 for Soil temperature Model SK-LT II-9

– 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

No.8167-04 for Compost temperature Model SK-LT II-10

– 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



(Type 1)



(Type 2)

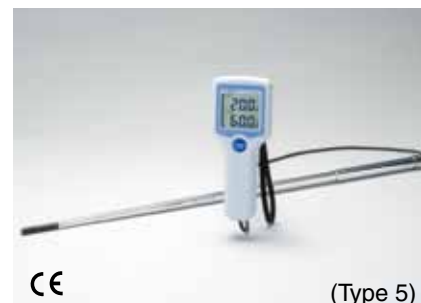
NB: The main body and the probe are unified.



(Type 3)



(Type 4)



(Type 5)

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 to 60.0°C				
	(humi.)	20.0 to 98.0% (at 23°C)				
Resolution	(temp.)	0.1°C (but at -10°C or lower: 1°C)				
	(humi.)	0.1%RH (but at lower than 15%RH: 1%)				
Accuracy	(temp.)	±0.5°C (15.0 to 35.0°C) ±1°C (other than above)				
	(humi.)	±3%RH (30 to 90%RH, 15.0 to 35.0°C) ±7%RH (lower than 0°C, higher than 50.0°C) ±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 insufficient voltage of battery				
Power requirement		3VDC ("AAA" size alkaline battery x 2)				
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				
	(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				

SK-RHC SERIES TEMPERATURE/HUMIDITY TRANSMITTERS

- No. 8920-01 Model SK-RHC-V (0 to 1V) : Voltage output: 0 to 1V
 No. 8920-02 Model SK-RHC-V (0 to 100mV) : Voltage output: 0 to 100mV
 No. 8920-03 Model SK-RHC-I : Electric current output: 4 to 20mA
 No. 8920-04 Model SK-RHC-C : Serial output: RS-485



Main unit with SK-RHCS-1 probe



Main unit with SK-RHCS-2 probe

FEATURES

- Wall-mount type transmitters
- Three kinds of outputs signals: voltage, electric current and RS-485 are available
- Three types of probes are interchangeably used with the main units

SPECIFICATIONS (Main units)

Display range	Temperature: -15 to 65.0°C	Humidity: 5.0 to 99.9%RH
Measuring range	Depends on the probe connected (refer to the probe specifications)	
Accuracy		
Output signals	Voltage: 0 to 1V, 0 to 100mV, Electric current: 4 to 20mA, Serial: RS-485	
Output accuracy	Temperature: ±1°C	Humidity: ±1%RH
Resolution	Temperature: 0.1°C (at more than -9.9°C), 1°C (at other range) Humidity: 0.1%RH (at more than 15%RH), 1%RH (at other range)	
Power requirement	12 to 24 VDC or Optional AC adapter (9VDC)	
Functions	Upper/Lower limit alarm output (No voltage ON-OFF 2 position control)	
Sampling time	Switchable (1 sec. /10 sec.)	
Dimensions	118 (w) x 100 (H) x 42 (D)mm	
Weight	Approx. 220g	
Accessories	Fixing screw for probe x 1	

OPTIONAL PROBES**SPECIFICATIONS**

Cat. No.	8921-00	8922-00	8922-10
Model	SK-RHCS-1	SK-RHCS-2	SK-RHCS-3
Type	Plug-in	With sensor cord	With sensor cord
Sensor (Temp.)	Thermistor		
(Humi.)	High polymeric resistance change type		
Measuring range (Temp.)	-10 to 60.0°C		
(Humi.)	20.0 to 95.0%RH (at 23°C)		25.0 to 95.0%RH (at 23°C)
Accuracy (Temp.)	±0.5°C (at 20.0 to 30.0°C) ±1°C (at other range)		±0.7°C (at 20.0 to 30.0°C)
(Humi.)	±3%RH (at 20 to 30°C / 30 to 90%)		±4%RH (at 20 to 30°C / 30 to 90%)
Dimensions	29(w) x 121(H) x 24(D)mm	29(w) x 121(H) x 24(D)mm	6 dia. x 35(L)mm
Cord length	—	5m (*)	1.5m
Weight	Approx. 42g	Approx. 228g	Approx. 87g

* Available to extend sensor cord at option

TEMPERATURE/HUMIDITY INDICATORS

No. 8091-00 Temperature Indicator
Model SK-M460-T



No. 8091-50 Temperature & Humidity Indicator
Model SK-M460-TRH



No. 8092-00 Temperature Indicator
Model SK-M350-T



No. 8092-50 Temperature & Humidity Indicator
Model SK-M350-TRH



SPECIFICATIONS

Cat. No.		8091-00	8091-50	8092-00	8092-50
Model		SK-M460-T	SK-M460-TRH	SK-M350-T	SK-M350-TRH
Display range	Temp.	-20.0 to 80.0°C	0.0 to 60.0°C	-20.0 to 80.0°C	-10.0 to 60.0°C
	Humi.	—	0.0 to 99.9%RH	—	0.0 to 99.9%RH
Display accuracy	Temp.	±(0.5+ 1 digit)°C			
	Humi.	—	±(0.5+ 1 digit) %RH	—	±(0.5+ 1 digit) %RH
Height of character		100mm	57mm	57mm	57mm
Input	Temp.	Pt100Ω	0 to 600mVDC	Pt100Ω	-100 to 600mVDC
	Humi.	—	0 to 999mVDC	—	0 to 999mVDC
Operating ambient		0 to 50°C, less than 85%RH (no condensing)			
Power requirement		12VDC (exclusive AC adapter is attached)			
Installation		Wall-mount/Pendant		Desk-top (multi angle type)	
Dimensions		463(W)×213(H)×65(D)mm		350(W) ×165(H)×85(D)mm	360(W) ×202(H)×85(D)mm
Weights		3.7kg	3.5kg	3.0kg	3.7kg
Accessories		AC adapter, mount fitting x 4 pcs.		AC adapter	
Option		Alarm function (upper and lower limits setting)			

* SK-M460-TRH and SK-M350-TRH are connectable with SK-RHC-V transmitter (0 to 1V)

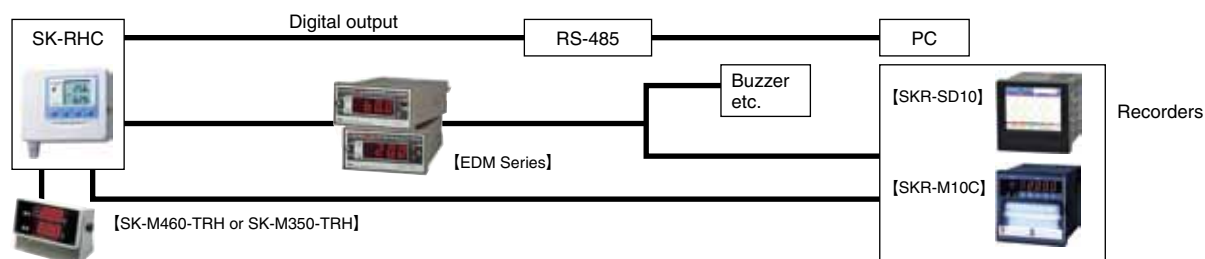
OPTIONAL PROBE (applicable to SK-M460-T and SK-M350-T)

No. 8091-10 Air temperature probe Model SR-56A-015

Input : Pt100Ω (JIS class B)
 Cord length : 1.5m (available to extend up to 10m at option)
 Dimensions : 18(w) x 51.3(H) x 10.3(D)mm
 Weight : approx. 50g



Application Diagram



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

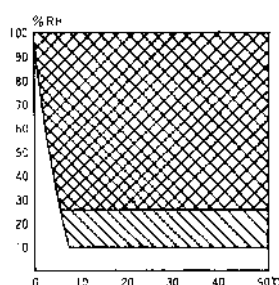


FEATURES

- Easy to read by high brightness digital display
- Assure high accuracy in compact body
- Eliminate an aging thanks to Pt100 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
- Brushless motor is available at option

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				
Elements		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%RH	−40 to 50.0°C	0 to 83 g/m³
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%RH	−40 to −10°C : 1°C −9.9 to 50°C : 0.1°C	1 g/m³
Measuring Accuracy		within ±0.2% F.S.	within ±0.2% F.S.	—	—	—
Operation Accuracy		—	—	within ±0.01%	within ±0.01%	within ±0.01%
Indication Accuracy		0.2% F.S. ±1 digit	0.2% F.S. ±1 digit	1% ±1 digit	0.1°C ±1 digit	within 1%
Sampling time		about 4 sec.				
Detecting element		Pt100 Ω	Pt100 Ω	—	—	—
Output		0 to 50°C / 0 to 1 VDC	—	0 to 100%RH/ 0 to 1VDC	—	—
Output impedance		500 Ω	—	500 Ω	—	—
Airflow speed		more than 3 m/s at outlet of airflow		—	—	—
Operating ambient		Temperature: 0 to 50°C (wet bulb shall not frozen) Humidity: no condensing				
Power requirement		100 VAC ±10% 50/60 Hz				
Power consumption		100 VAC 0.1A				
Dimensions	Indicator	311 (W) x 192.5 (H) x 144 (D) mm				
	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) Water supply bottle				

No.7435-50 MULTIPLE MEASURING SYSTEM FOR TEMPERATURE AND HUMIDITY WITH PAPERLESS RECORDER MODEL SK-5RAD-MR



FEATURES

- This model consists of a sensor section based on the principle of an Assmann psychrometer and a paperless recorder
- Long term measurement with stability: use of Pt100 ohm sensor that eliminates aged deterioration, compared to electrical humidity sensor
- Simultaneous display of all four factors: dry bulb & wet bulb temperatures, relative humidity and dew point
- Digital display with various functions such as trend display
- Using SD card to save measured values, the collected data can be used for data analysis and graphs with usage of a spread sheet software

SPECIFICATIONS

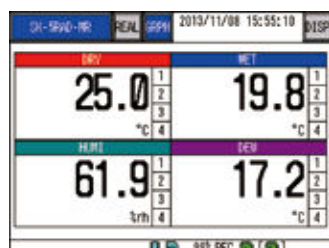
Model		No. 7435-50 SK-5RAD-MR			
Elements		Dry bulb temperature	Wet bulb temperature	Relative humidity	Dew point temperature
Measuring range		5.0 to 50.0°C	5.0 to 50.0°C	—	—
Operating range		—	—	0.0 to 99.9%RH	−40.0 to 50.0°C
Measuring accuracy		±(0.1%rdg+0.2)°C	±(0.1%rdg+0.2)°C	—	—
Detecting element		Pt100 Ω	Pt100 Ω	—	—
Airflow speed		More than 3m/s			
Display		5.7" TFT LCD touch panel			
Recording method		SD memory card (SD/SDHC standard) (*1)			
Waterproof rate		JIS C 0920 IP65 (*2)			
Power requirement		100 to 240VAC±10% 50/60Hz Continuous operation: within 24 hours.			
Dimensions	Recorder	150 (W) × 155 (H) × 186 (D) mm (protuberance not included)			
	Detector	80 (W) × 264 (H) × 110 (D) mm			
Weight		Recorder: approx. 1.0 kg Detector: approx. 1.5 kg			
Standard accessories		CD-ROM (various tools), tweezers, water supply bottle, hook for wall-mount, stand, protection cover, 20 wicks, fixture band, power cord (for 100VAC), fixture for panel, packing for water protectionx2			

* 1. SD memory card is not included in the set.

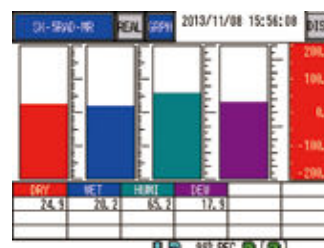
* 2. Only for the front of the recorder in use of packing for the panel mount

VARIOUS DISPLAY FUNCTIONS

Digital Display



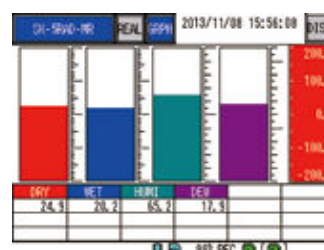
Bar-graph Display



Trend Display (Horizontal)



Trend Display (Vertical)



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 automatically turn off after 60 minutes. (AUTO POWER-OFF function)

**MUTUAL SPECIFICATIONS (MAIN UNITS)**

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
Measuring range	-40 to 250°C (depends on the probe connected: SWP II series)			
Resolution	0.1°C at -9.9 to 199.9°C 1°C at other range			
Accuracy (body)	±(0.1+1 digit)°C at -9.9 to 199.9°C ±(1+1 digit)°C at other than above			
Waterproof property	Conforming to JIS C 0920 IPX6			
Operating ambient	0 to 50°C			
Sampling time	Approx. 1 sec.			
Functions	Data Hold, Auto power-off, Low battery mark			
	Min/Max memory data			
	Clock display (24h)			
	Timer function (buzzer sounds)			
	Alarm Upper/Lower limits (buzzer)			
	Data memory (100)			
Power requirement	3VDC (AAA size battery x 2)			
Battery life	Approx. 1000 hours continuous with alkaline batteries (350 hours under use of buzzer)			
Material	ABS resin			
Dimensions	71(W)×170(H)×36(D)mm			
Weight	Approx. 145g			
Accessories	SWP II-01M probe w/test result, hand strap, vinyl cover, "AAA" size alkaline battery x 2			

SWPII SERIES OPTIONAL PROBES (PBT resin grip)

**No. 8071-01 SWPII-01M Standard probe**

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

**No. 8072-01 SWPII-02M High sensitive probe**

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

**No. 8073-00 SWPII-03 Surface temperature probe**

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

**No. 8074-01 SWPII-04M Penetration probe**

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

**No. 8075-01 SWPII-05M Long stem probe**

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

**No. 8076-01 SWPII-06M Tapered stem probe**

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

SWPII SERIES OPTIONAL PROBES (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

MUTUAL SPECIFICATIONS (PROBES)

Cat. No.		8071-01	8072-01	8073-00	8074-01	8075-01	8076-01	8077-10	8077-20	8077-30	8077-40
Model		SWPII-01M	SWPII-02M	SWPII-03	SWPII-04M	SWPII-05M	SWPII-06M	SWPII-07	SWPII-08	SWPII-09	SWPII-10
Measuring Range		-40 to 250°C	-15 to 250°C	-15 to 200°C	-15 to 250°C	-15 to 250°C	-40 to 250°C	-40 to 250°C	-15 to 250°C	-40 to 250°C	-15 to 250°C
Accuracy	-40 to -16°C	±2°C	— (out of measuring range)				±2°C		—	±2°C	—
	-15 to -10°C	±2°C	±1°C	±2°C	±1°C		±2°C		±1°C	±2°C	±1°C
	-9.9 to -0.1°C	±1°C									
	0.0 to 40.0°C	±0.6°C	±0.3°C	±0.8°C	±0.6°C						
	40.1to 105.0°C	±0.7°C		±1°C		±0.7°C					
	105.1 to 145.0°C	±1°C		±1.5°C		±1°C					
	145.1 to 250°C	±2°C		—		±2°C					
Sensor		Thermistor									
Waterproofness		IP X7		—		IP X7					
Shape of stem end		Pointed end		for surface	Pointed end	Round end	Pointed end		Round end	Pointed end	
Materials	Sensing stem	SUS304		Cu + Ni plate		SUS304		SUS316	SUS304		
	Grip	PBT resin		PET, Tefron		PBT resin			SUS303		
	Cord	PVC resin									
Weights		100g		50g	99g	105g	99g	140g	145g	143g	139g

No. 8080-05 WATERPROOF DIGITAL THERMOMETER MODEL SK-1260**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.

SPECIFICATIONS

Model	Waterproof Digital Thermometer SK-1250MC II α	
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 : $\pm 0.2^\circ\text{C}$ Sensor : $\pm (0.1\% \text{ rdg} + 0.3^\circ\text{C})$ at 0.0 to 100.0°C : $\pm (0.2\% \text{ rdg} + 0.4^\circ\text{C})$ 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 : $\pm 0.5^\circ\text{C}$ at -99.9 to -0.1°C : $\pm (0.2\% \text{ rdg} + 1^\circ\text{C})$ at 200 to 1250°C Sensor : $\pm 1.5^\circ\text{C}$ at -40.0 to 375°C (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	
Waterproof property	Conforming to IP X4 rated	
Sampling time	1 sec.	
Sensor	Thermistor / K Thermocouple	
Power requirement	6 VDC ("AAA" size battery x 4) or AC adapter (option)	
Battery life	About 180 hours continuous with manganese batteries About 280 hours continuous with alkaline batteries	
Materials	Main unit : ABS resin Probe : Sensing stem Stainless (SUS304) 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-1260 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. 700g
 Standard accessories : Printing paper 1 roll (about 28 m), exclusive cable 1 pc.

**No. 8008-90 OPTIONAL AC ADAPTER MODEL AD-0601000-1**

Input : 100 to 240VAC 50/60Hz

THERMISTOR PROBES

**No. 8080-80 SK-S100T Standard probe**

Range: -30 to 199.9°C , $\varnothing 2 \times 100\text{mm}$ w/1.1m cord
Use for semisolid, viscosity and liquid.

**No. 8080-84 SK-S101WT Waterproof type penetration probe**

Range: -30 to 199.9°C , $\varnothing 3 \times 120\text{mm}$ w/1.1m cord
Suitable for food industry

**No. 8080-88 SK-S103T Rectum temperature probe**

Range: $+30.0$ to 50.0°C , $\varnothing 3 \times 110\text{mm}$ w/1.1m cord

**No. 8080-82 SK-S101T Penetration probe**

Range: -30 to 199.9°C , $\varnothing 3 \times 100\text{mm}$ w/1.1m cord
Use for semisolid, viscosity and liquid.

**No. 8080-86 SK-S102T Water temperature probe**

Range: -30.0 to 100.0°C , $\varnothing 17 \times 110\text{mm}$ w/10m cord
Water pressure resistance type

**No. 8080-90 SK-S201T Air temperature probe**

Range: -30.0 to 150.0°C , $\varnothing 5 \times 100\text{mm}$ w/1.1m cord
Used in offices and warehouses.

K TYPE THERMOCOUPLE PROBES

**No. 8080-20 SK-S100K Standard probe**

Range: -100 to 300°C , $\varnothing 2.3 \times 150\text{mm}$ w/1.1m cord
Use for semisolid, viscosity and liquid.

**No. 8080-24 SK-S101K General purpose probe**

Range: -100 to 700°C , $\varnothing 3.2 \times 250\text{mm}$ w/1.1m cord

**No. 8080-28 SK-S103K Asphalt temperature probe (w/ stainless steel grip)**

Range: 0 to 300°C , $\varnothing 5 \times 250\text{mm}$ w/1.1m stainless heat resistance cord

**No. 8080-32 SK-S105K Duplex wire probe (stainless steel shield wire)**

Range: -100 to 300°C , $\varnothing 0.65 \times 10\text{m}$ w/0.3m stainless heat resistance cord

**No. 8080-50 SK-S301K Surface temperature probe**

Range: 0 to 600°C , $\varnothing 25 \times 40\text{mm}$ w/1.1m cord

**No. 8080-58 SK-S305K Tilting (in 90°) type surface temperature probe**

Range: -30 to 500°C , Sensing part $\varnothing 17 \times 36\text{mm}$ w/1.1m cord

**No. 8080-62 SK-S307K Surface temperature probe**

Range: -30 to 400°C , Sensing part $\varnothing 17 \times 25\text{mm}$ w/1.1m cord
 $14 \times 17 \times t0.6\text{mm}$ w/3m heat resistance cord

**No. 8080-22 SK-S100WK Waterproof type penetration probe**

Range: -100 to 300°C , $\varnothing 2.3 \times 150\text{mm}$ w/1.1m cord
Suitable for food industries

**No. 8080-26 SK-S102K High temperature probe**

Range: 0 to 800°C , $\varnothing 4.8 \times 500\text{mm}$ w/1.1m cord

**No. 8080-30 SK-S104K High sensitivity probe**

Range: -100 to 300°C , $\varnothing 1 \times 1000\text{mm}$ w/1.1m cord
Use for viscosity and liquid.

**No. 8080-36 SK-S107K High temperature probe (sensor: inconel alloy)**

Range: 0 to 1000°C , $\varnothing 4.8 \times 1000\text{mm}$ w/1.1m cord
(Option : Range : 0 to 1250°C , $\varnothing 8.0 \times 1000\text{mm}$)

**No. 8080-56 SK-S304K Surface temperature probe**

Range: 0 to 300°C , Mount on flat surface with screws.
 $14 \times 17 \times t0.6\text{mm}$ w/3m heat resistance cord

**No. 8080-60 SK-S306K Point surface temperature probe**

Range: -30 to 250°C , Sensing part $\varnothing 10 \times 12\text{mm}$ w/1.1m cord

**No. 8080-64 SK-S308K L shape type surface temperature probe**

Range: -30 to 600°C , Sensing part $\varnothing 17 \times 30\text{mm}$ w/1.1m cord

* There are also probes other than describing. Visit our web-site.

* 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****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 AVG: average value HOLD: data hold OFFSET: offset value Memory function (150 data) Auto power-off (about 30 min.)	Automatic resolution switching function MAX/ MIN: maximum/ minimum memory data AVG: average value HOLD: data hold, backlight OFFSET: offset value Auto power-off (about 30 min.) 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)	$\pm(0.5\%rdg + 1) ^\circ C$ at –50 to 0.0°C $\pm(0.3\%rdg + 1) ^\circ C$ at 0.1 to 1000°C $\pm(0.5\%rdg + 1) ^\circ C$ 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	
Operating 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) continuous with alkaline batteries
Materials	Main unit : ABS resin 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" size manganese battery x 6 Vinyl cover	"AAA" size alkaline battery x 6 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. Visit our web site.

No. 8260-00 LASER MARKER INFRARED THERMOMETER MODEL SK-8700

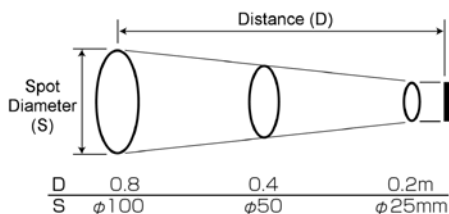
CE

FEATURES

- The backlit LCD facilitates reading even in dark places
- Emissivity is fixed at 0.95
- Auto power off function
- Laser marker is switchable in ON and OFF
- Temperature unit Celsius (°C) and Fahrenheit (°F) is selectable

SPECIFICATIONS

Measuring range	: -20 to 420°C/0 to 786°F
Accuracy (at 23°C±5°C)	: ±2°C at -20 to 100°C, ±2%rdg at other range
Resolution	: 1°C/1°F
Emissivity	: 0.95 (fixed)
Distance to spot size (D:S)	: 8:1
Laser sighting	: 1 point / class II laser (less than 1mW of power)
Sampling time	: Approx. 0.5 sec.
Operating ambient	: 0 to 50°C, less than 80%RH (no condensing)
Power requirement	: 9VDC (6F22 battery x 1)
Functions	: °C/°F selectable, Backlight ON/OFF, Laser marker ON/OFF Auto power-off
Dimensions	: 41.5(W) x 160(H) x 65(D)mm
Weight	: Approx. 140g (including battery)
Accessories	: Soft pouch, vinyl cover, lens cap, hand strap, 6F22 battery x 1

**No. 8266-00 LASER MARKER INFRARED THERMOMETER MODEL SK-8940**

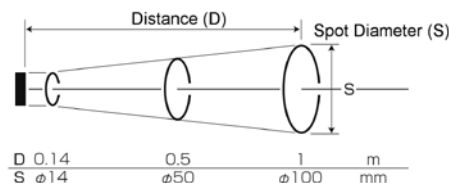
CE

FEATURES

- A wide range of temperature from -40 to 500°C
- Emissivity can be set in increment of 0.01 within the range of 0.30 and 1.00
- The backlit LCD facilitates reading even in dark places
- Auto power off function
- A measured value is automatically held (fixed) for about six seconds
- Ideal for food processing industries where clean and hygienic measurement is required

SPECIFICATIONS

Measuring range	: -40 to 500°C
Accuracy	: ±2°C or ±2%rdg at -19.9 to 450°C (at 23°C±5°C at ε0.95) ±4°C or ±4%rdg at other range
Resolution	: 0.1°C at -40 to 99.9°C / 1°C at higher than 100°C
Emissivity	: Adjustable between ε0.30 and 1.0 in 0.01 step
Distance to spot size (D:S)	: 10:1
Laser sighting	: 1 point / class II laser (less than 1mW of power)
Sampling time	: Approx. 0.5 sec.
Operating ambient	: 0 to 50°C, less than 80%RH (no condensing)
Power requirement	: 9VDC (6F22 battery x 1)
Functions	: Backlight ON/OFF, Laser marker ON/OFF Auto power-off, HOLD
Dimensions	: 45(W) x 157(H) x 80(D)mm
Weight	: Approx. 151g (including battery)
Accessories	: Soft pouch, hand strap, 6F22 battery x 1



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 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



SK-8110

CE

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



SK-8120

CE

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



SK-8130

CE

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



SK-8140

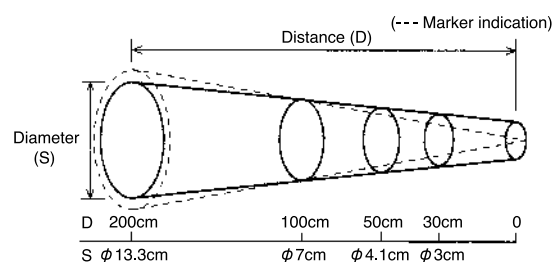
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DISTANCE TO SPOT SIZE RATIO (D:S)

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

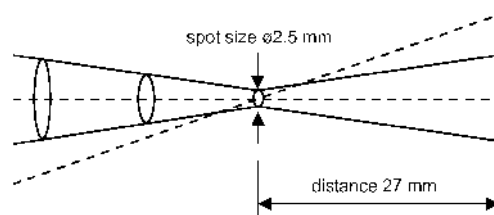
The infrared thermometer focuses infrared energy from an object onto its detector at a rate.

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

**DUAL POINT LASER INFRARED THERMOMETER**

(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 (emissivity at 0.95 in 23±5°C)	±1% rdg. at above 200°C ±2°C at 1 to 199°C ±5°C at below 0°C			
Temperature drift (emissivity at 0.95)	±0.1% / °C rdg. at above 200°C ±0.2°C / °C at below 200°C			
Repeatability	less than 1°C at above 30°C (emissivity at 0.95 in 23±5°C)			
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 (D: distance, S: spot size)			Measuring distance: 27 mm 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 Laser output: less than 1 mW (Class II Laser)			
	Auto power-off, Auto backlight			
	High and low temperature alarm			
Operating ambient	0 to 50°C for temperature Less than 85% RH for humidity (no condensing)			PEAK / VALLEY selectable
Waterproof property	JIS C 0920 equivalent to IPX4			
Power requirement	3VDC ("AA" (LR6) size Alkaline battery x 2) 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 115 VAC ±10% 50/60 Hz
Power consumption	70/55 mA
Revolution of fan	2700/3300 rpm
Max. airflow	0.73/0.94 m ³ 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°C (option: -10 to 50°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°C)
 $\pm 2^{\circ}\text{C}$ (other range)
 Chart graduation: 1°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°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: ± 1 hPa (950 to 1040 hPa)
 ± 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. 3.1 kg (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 Human hair bundle for humidity
Measuring range:	-20 to 50°C for temperature 0 to 100% for humidity
Accuracy:	±1°C (at 10 to 30°C) for temperature ±2°C at other range ±3%RH for humidity (20 to 95%RH at 15 to 25°C) ±5%RH at other range
Chart graduation:	1°C for temperature 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 Spare cartridge pen (violet) x 2 "C" size battery x 2, Test result

CE

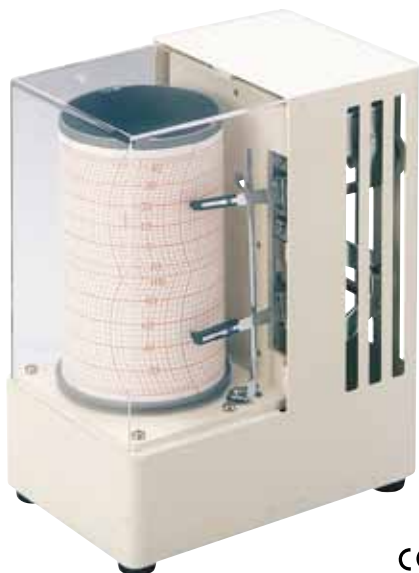
No. 7006-00 THERMOHYGROGRAPH MODEL MINI-α (Alpha) (BLUE BASE)**SPECIFICATIONS**

Sensors:	Aged bimetallic strip for temperature Humidity sensing coil for humidity
Measuring range:	-15°C to 50°C for temperature 10 to 100% for humidity
Accuracy:	±2°C (at 10 to 30°C) for temperature ±3°C at other range ±5%RH for humidity (30 to 90% at 15 to 25°C) ±7%RH at other range
Chart graduation:	2°C for temperature 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) "AA" size battery x 1

No. 7006-10

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

CE

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

Sensors:	Aged bimetallic strip for temperature Human hair bundle for relative humidity
Measuring range:	-15 to 40°C for temperature 5 to 100% for humidity
Accuracy:	±2°C (at 10 to 30°C) for temperature ±3°C at other range ±5%RH for humidity (30 to 90%RH at 15 to 25°C) ±7%RH at other range
Chart graduation:	2°C for temperature 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) "AA" size battery x 1

CE

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

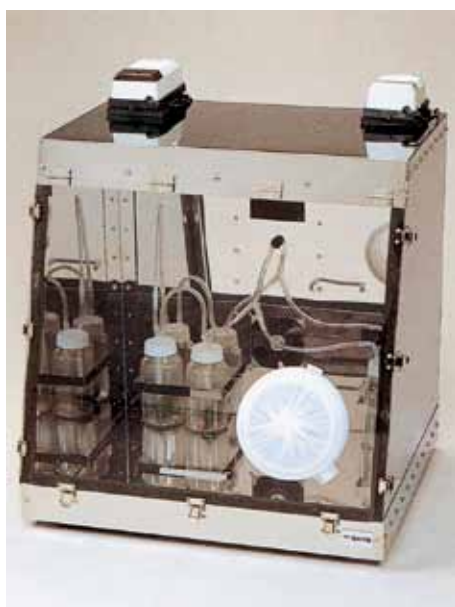
Measuring range: -15 to 50°C
 Model: NSII-ES1 (one-point type)
 Clock: Quartz type
 Drum rotation: 7 day and 32 day by change-over switch
 Sensor: Liquid in stainless steel capillary
 Lead length: 5 m (vinyl coated)
 Accuracy: $\pm 1^{\circ}\text{C}$
 Chart graduation: 1°C
 Recording pen: Cartridge pen (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)
 "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: $\pm 1^{\circ}\text{C}$
 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)
 "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 $\pm 1^{\circ}\text{C}$ per hour) Humidity : 30 to 80% (no condensing)
Humidity generated in chamber	Around 55% (It will be stable around 45 to 65% depending on desiccant and ambient)
Stability of humidity in chamber	Within $\pm 1\%$ (temperature fluctuation: within $\pm 0.5^{\circ}\text{C}/\text{hour}$) Within $\pm 1.5\%$ (temperature fluctuation: within $\pm 1^{\circ}\text{C}/\text{hour}$)
Range of humidity in chamber	Within $\pm 0.5\%$ at the position for installing
Power requirement	$100\text{ VAC} \pm 10\%$ $50/60\text{ Hz}$
Fuse	$\varnothing 6.4 \times 30\text{ mm}$ 125 VAC 0.3A
Dimensions	$600\text{ (W)} \times 600\text{ (H)} \times 581\text{ (D)}\text{ mm}$
Materials	Stainless steel
Weight	16 kg
Accessories	Desiccant (500 g) 1 ea. Spare fuse 1 ea.

Exclusive Charts

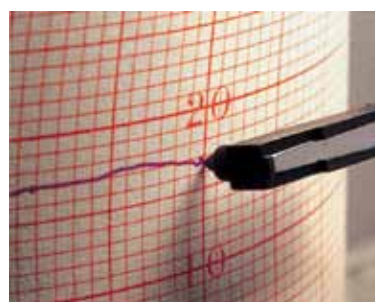
Recorder	Recording cycle	Cat. No.	Quantity	Remarks
No. 7210-00/7215-00 Thermohygrograph	1 day	7210-60	400 sheets	C 241540
	7 day	7210-62	55 sheets	C 1681540
	32 day (※)	7210-64	55 sheets	C 321540
No. 7211-00 Thermohygrograph	1 day	7211-60	400 sheets	
	7 day	7211-62	55 sheets	
	32 day	7211-64	55 sheets	
No. 7012-00 Thermohygrograph	3 month	7012-60	1 roll	3L 1002050-III
	1 month	7012-70	1 roll	1L 1002050-III
No. 7230-00 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 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 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
No. 7200-00 Remote one point Thermograph	7 day	7200-62	55 sheets	AR 140-1
	32 day	7200-64	55 sheets	AR 320
No. 7202-00 Remote two point Thermograph	7 day	7202-62	55 sheets	AR 140-2
No. 7005-00 MINI-STAR Thermohygrograph	7 day	7005-62	55 sheets	S168-5100X640
No. 7006-00/7006-10 MINI-ALPHA Thermohygrograph	7 day	7006-62	55 sheets	S168-1550
No. 7008-00 MINI-CUBE Thermohygrograph	7 day	7008-62	55 sheets	S168-5100X1540

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

※ 32 day chart is not usable with No.7215-00 Thermohygrograph.

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	100 to 115VAC±10% 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 relative humidity 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. 280 g



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 relative humidity
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. 230 g
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 relative humidity 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. 100 g



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% relative humidity 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. 750 g



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. 145 g

- Can be used at any convenient place with an optional compact stand.
- A water reservoir is suitable for continuous observation.
- Continuous operation for 20 hours with 2 batteries (3 VDC).
- Power requirements both of AC and DC are available.
- Easy to fix thermometers to the main unit using a screw cap.
- By use of the wick, no need to wrap the wet bulb with cotton gauze.

Measuring range : 0 to 50°C
Division : 0.2°C
Accuracy : $\pm 0.2^\circ\text{C}$
Length : 30 cm

Speed of air flow	: 3 m/s to 5 m/s
Power requirements	: 3 VDC ("D" size battery x 2) or AC adapter
Battery life	: About 20 hours (continuously use at more than 3 m/s)
Outer dimensions	: 80 (W) x 450 (H) x 110 (D) mm
Weight	: Instrument : 0.74 kg (without batteries) Stand (option) : 1.65 kg

Water supply bottle, Dustproof cover, Humidity conversion table, Humidity conversion rule, Test result for thermometers, 20 wicks, "D" size battery x 2, AC adapter (100 to 240VAC use), Carrying case (possible to accommodate all accessories)

	Range	Div.	Accuracy
No. 7450-50	0 to 50°C	0.2°C	±0.2°C
No. 7450-60	-30 to 50°C	0.2°C	±0.2°C
No. 7450-65	0 to 40°C	0.1°C	±0.2°C

No. 7450-67	0 to 50°C	0.2°C	±0.2°C
No. 7450-68	-30 to 50°C	0.5°C	±0.5°C

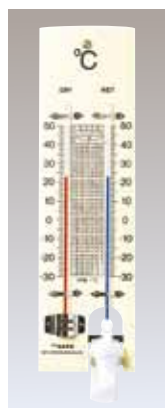
No. 7450-30	Compact stand in exclusive use for SK-RHG
No. 7450-40	Tripod in general use for Assmann Psychrometer

No. 7450-70	Spare wicks in exclusive use for SK-RHG (60 pcs./box)
No. 7450-75	AC adapter (for 100 to 240 VAC)

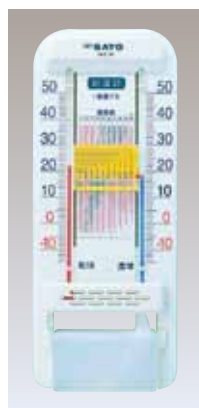


**No. 7320-00 AUGUST PSYCHROMETER****SPECIFICATIONS**

Measuring range: -20 to 50°C
 Min. graduation: 0.5°C
 Accuracy: $\pm 0.5^{\circ}\text{C}$
 Dimensions: 420 (W) x 110 (H) mm
 Weight: 140 g
 Accessories: Metal frame, conversion table

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

Measuring range: -30 to 50°C
 Min. graduation: 1°C
 Accuracy: $\pm 1^{\circ}\text{C}$ at 0 to 30°C
 $\pm 2^{\circ}\text{C}$ at other range
 Dimensions: 79 (W) x 271 (H) x 29 (D) mm
 Weight: Approx. 125 g

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

Measuring range: -10 to 50°C
 Min. graduation: 1°C
 Accuracy: $\pm 1^{\circ}\text{C}$ at 0 to 30°C
 $\pm 2^{\circ}\text{C}$ at other range
 Dimensions: 104 (W) x 260 (H) x 28 (D) mm
 Weight: Approx. 110 g

**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: $\pm 1^{\circ}\text{C}$ at 0 to 40°C
 $\pm 2^{\circ}\text{C}$ at other range
 Cord length: 3 m
 Dimensions: 98 (W) x 107 (H) x 20 (D) mm
 Weight: 145 g

**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: $\pm 1^{\circ}\text{C}$ at 0 to 40°C
 $\pm 2^{\circ}\text{C}$ 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: 50 g

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

Min. graduation: 1°C
 Accuracy: $\pm 1^{\circ}\text{C}$
 Dimensions: 76 (W) x 220 (H) x 25 (D) mm
 Weight: 135 g

No. 1506-00 Measuring range: -20 to 50°C
 No. 1506-50 Measuring range: -40 to 50°C

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

Measuring range: -30 to 50°C for temp.
 25 to 95% RH for humi.
 Accuracy: $\pm 2^{\circ}\text{C}$ for temperature
 $\pm 5\%$ RH (30 to 80% RH, 15 to 25°C)
 for humidity
 $\pm 8\%$ RH at other range
 Dimensions: 180 (W) x 180 (H) x 35 (D) mm
 Weight: 240 g

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

Measuring range:	930 to 1,070 hPa, 700 to 800 mmHg
Min. graduation:	1 hPa / 1 mmHg
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. 690 g

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

Air pressure:	
Measuring range:	945 to 1,045 hPa (black scale) 710 to 780 mmHg (red scale)
Min. graduation:	1 hPa / 1 mmHg
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. 220 g
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 1,090 hPa 650 to 820 mmHg
Min. graduation:	1 hPa / 1 mmHg
Vernier readings:	0.1 hPa / 0.1 mmHg
Accuracy:	±0.5 hPa
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 shipment, mercury is separately packed in a glass container.

The relation between elevation and air pressure (JIS W02101)

Eleva- tion (m)	Air pressure (hPa)	Mercury column (mmHg)	Eleva- tion (m)	Air pressure (hPa)	Mercury column (mmHg)	Eleva- tion (m)	Air pressure (hPa)	Mercury column (mmHg)	Eleva- tion (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

Descriptions on Hot Wire Anemometers

Adopting the principle of thermal anemometer, hot wire anemometers can measure wide range of air velocity. Due to the temperature compensation function, the measured value can be read without correction and conversion.



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

FEATURES

- * This is a multi-functioned hot wire anemometer which can measure air velocity, air temperature and static pressure
- * Powered by batteries, SK-28V can be brought to anywhere to take measurements
- * With its wide measuring range from 0 to 120°C
- * The dual range of 0 to 3 m/s and 3 to 40 m/s for air velocity and wide widens the usage areas
- * Usable in various places such as duct or air compressor factories, testing rooms and laboratories

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) Air temperature: 0 to 60°C, 60 to 120°C (dual range) Static pressure: 0 to 500 Pa, 500 to 4500 Pa (dual range)
Accuracy:	Air velocity: $\pm 5\%$ F.S. $+0.1$ m/s at 18 to 28°C Air temperature: $\pm 0.5^\circ\text{C}$ Static pressure: $\pm 2\%$ F.S.
Temperature compensation:	0 to 120°C
Power requirements:	9 VDC ("C" size alkaline battery x 6)
Operating ambient:	Main body: 5 to 45°C for air temperature 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:	$\varnothing 8$ to 18.7 mm x 180 to 930 (L) mm (telescoping type)
Cord:	$\varnothing 6$ mm x 3 (L) m
Weight:	Approx. 2 kg (with batteries)
Standard accessories:	Carrying case, "C" size batley x 6, test result



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

FEATURES

- * Compact body allows the operation with one hand
- * Easy to read measured value with the Large LCD
- * Telescoping type probe is suitable for the measurement of air-flow and temperature at the ducts and outlet of air-conditioners
- * Available to read data easily using HOLD function
- * Wide measuring range: 0 to 30 m/s for air velocity and 0 to 80°C for temperature

SPECIFICATIONS

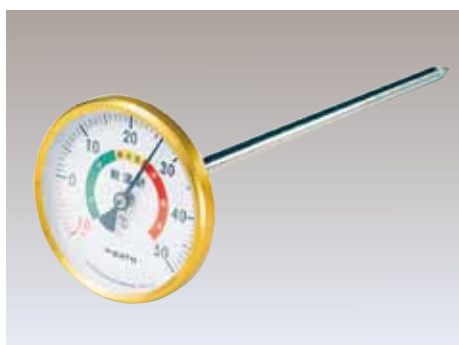
Measurement object:	Clean air at normal pressure and humidity
Measuring range:	Air velocity: 0 to 30 m/s Air temperature: 0 to 80°C
Accuracy:	Air velocity: $\pm 3\%$ F.S. ± 1 digit Air temperature: $\pm 0.5^\circ\text{C} \pm 1$ digit
Resolution:	Air velocity: 0.1 m/s Air temperature: 0.1°C
Temperature compensation:	0 to 80°C
Power requirements:	7.5 VDC ("AA" size 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 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:	$\varnothing 8$ to 18.7 mm x 180 to 930 (L) mm (telescoping type)
Cord:	$\varnothing 6$ mm x 2 (L) m
Weight:	Approx. 475 g (with batteries)
Materials of case:	ABS resin
Standard accessories:	Vinyl case, "AA" size battery x 5, test result

**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 BIMETAL THERMOMETERS FOR SURFACE TEMPERATURE WITH MAGNET****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 (STOCK ITEMS) MODEL BM-S-90S/BM-T-90S/BM-T-75S



BM-S-90S



BM-T-90S



BM-T-75S

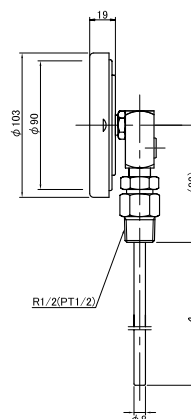
MUTUAL SPECIFICATIONS

Cat. No.	2010-B	2030-B	2110-B
Model	BM-S-90S	BM-T-90S	BM-T-75S
Case dia.	103mm		80mm
Dial dia.	90mm		75mm
Materials Case Window	SUS304 glass		
Sensing stem Materials	Ø8 mm SUS304		
Screw Materials	PT1/2 SUS304		
Withstand pressure	5kgf/cm ²		2kgf/cm ²

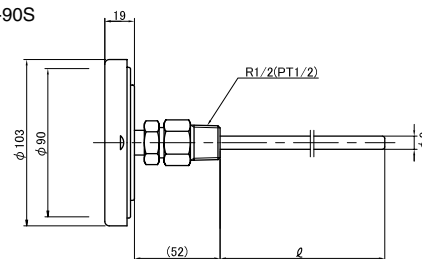
Measuring range	Stem length	BM-S-90S	BM-T-90S	BM-T-75S
-30 to 50°C	60mm	○	○	○
	100mm	○	○	○
	150mm	○	○	○
	200mm	○	○	—
0 to 100°C	50mm	○	○	○
	100mm	○	○	○
	150mm	○	○	○
	200mm	○	○	—
0 to 150°C	50mm	○	○	—
	100mm	○	○	—
	150mm	○	○	—
	200mm	○	○	—
0 to 200°C	50mm	—	○	—
	100mm	—	○	—
	150mm	—	○	—
	200mm	—	○	—

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

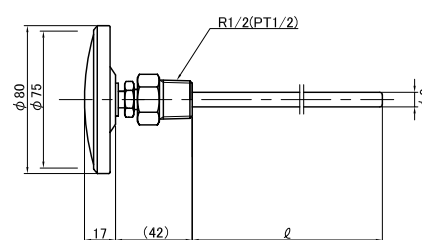
BM-S-90S



BM-T-90S



BM-T-75S

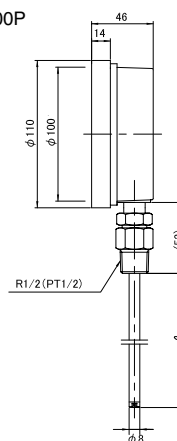
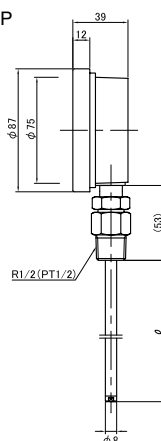


BIMETAL THERMOMETERS (STOCK ITEMS) MODEL BM-T-75P/BM-S-75P/BM-T-100P/BM-S-100P

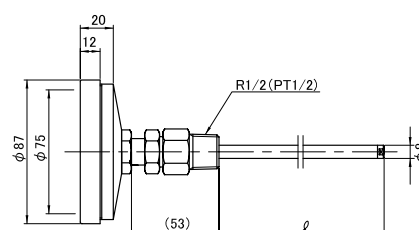


BM-S-75P

BM-S-100P



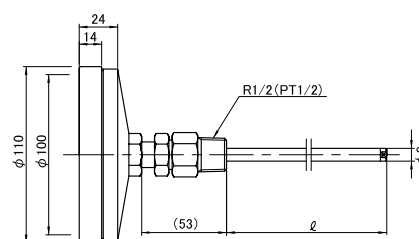
BM-T-75P



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 Case Window	Polyamide(PA) resin glass			
Sensing stem Materials	Ø8 mm Brass plating (Bs)			
Screw Materials	PT1/2 Brass plating (Bs)			

BM-T-100P



Measuring range	Stem length	BM-T-75P	BM-S-75P	BM-T-100P	BM-S-100P
0 to 50°C	50mm	○	○	○	○
	100mm	○	○	○	○
	150mm	○	○	○	○
0 to 100°C	50mm	○	○	○	○
	100mm	○	○	○	○
	150mm	○	○	○	○
0 to 150°C	50mm	○	○	○	○
	100mm	○	○	○	○
	150mm	○	○	○	○
0 to 200°C (for ordering)	50mm	○	○	○	○
	100mm	○	○	○	○
	150mm	○	○	○	○


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
Model	BM-T-40S	BM-T-60S	BM-T-70S	BM-T-90S
Dimensions	Case	44mm dia.	63mm dia.	80mm dia.
	Dial	42mm dia.	60mm dia.	70mm dia.
Case construction	Splash-proof type			
Measuring range	-50 to 500°C (See page 34)			
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 ²	5kgf/cm ²		


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

Cat. No.	2465-B	2475-B	2495-B
Model	BM-S-60S	BM-S-70S	BM-S-90S
Dimensions	Case	63mm dia.	80mm dia.
	Dial	60mm dia.	70mm dia.
Case construction	Splash-proof type		
Measuring range	-50 to 500°C (See page 34)		
Materials	Case	SUS304	
	Window	Glass (option: Acryl)	
	Sensing stem	SUS304	
Sensing stem dia.	6, 8, 10, 12 mm		
Withstand pressure	5kgf/cm ²		


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

Cat. No.	2700-B	2710-B
Model	BM-F-70S	BM-F-90S
Dimensions	Case	80mm dia.
	Dial	70mm dia.
Case construction	Splash-proof type	
Measuring range	-50 to 300°C (See page 34)	
Materials	Case	SUS304
	Window	Glass (option: Acryl)
	Sensing stem	SUS304
Sensing stem dia.	6, 8, 10, 12 mm	
Withstand pressure	5kgf/cm ²	



STANDARD SPECIFICATIONS OF BIMETAL THERMOMETERS

A. STANDARD FOR CASE (Material: SUS304)

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
	Ø75 mm	BM-T-75S	2472-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

C. STANDARD FOR STEM

Material	Stem diameter (mm)			
	Ø6	Ø8	Ø10	Ø12
SUS304	○	○	○	○
SUS316	○	○	○	○

○ available

B. STANDARD FOR SCALE PLATE

Temp. range (unit: °C)	Minimum div.	Dial diameter (mm)				
		Ø40	Ø60	Ø70	Ø75	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	—	○	○	○	○

○ are available.

D. STANDARD FOR SCREW

Name	Applied bulb dia. (mm)	Material		
		SUS304	SUS316	SUS304*
PT • PF1/4	Ø6	○	○	—
PT • PF3/8	Ø6, 8, 10	○	○	○
PT • PF1/2	Ø6, 8, 10, 12	○	○	○
PT • PF3/4	Ø6, 8, 10, 12	○	○	○
PT • PF1/1	Ø6, 8, 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. ** 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 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 back outlet	Ø75 mm	LD-75S	3060-L	*2
		SD-75S	3460-S	
	Ø100 mm	LD-100S	3030-L	
		SD-100S	3430-S	
Rigid stem type	Ø100 mm S type	LAS-100S	3012-L	
		SAS-100S	3412-S	
	Ø100 mm L type	LAL-100S	3014-L	
		SAL-100S	3414-S	
	Ø100 mm T type	LAT-100S	3015-L	
		SAT-100S	3415-S	
	Ø100 mm Tilting type	LAF-100S	3058-L	
		SAF-100S	3480-S	
*3	Ø100 S type	SASW-100SO	3453-S	
	Ø100 T type	SATW-100SO	—	

*1 Waterproof type (LBW-100S / SBW-100S) available.

*2 Waterproof type (LDW-100S / SDW-100S) available.

*3 Oil-filled for vibration-proof type.

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

Temp. range (unit: °C)	Dial diameter		
	Ø75mm	Ø100mm	Ø150mm
−150 to 50	—	5/1	—
−100 to 50	5/1	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 (unit: °C)	Dial diameter		
	Ø75mm	Ø100mm	Ø150mm
0 to 400	—	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/F	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 teflon tube	TTC	Same as above BTC type, but coated with P.C.

D. STANDARD FOR STEM

Material	Stem diameter		
	Ø8mm	Ø10mm	Ø12mm
SUS304	○	○	○
SUS316	○	○	○

○ available

E. SHAPE OF CONNECTOR FOR STEM

(Refer to page 34.)

F. STANDARD FOR SCREW

Name	Applied bulb 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

G. MINIMUM LENGTH SENSING STEM (for LIQUID TYPE)

Unit : mm

Connection type	Dia.	Measuring Range (°C)								
		0 to 50	−30 to 50	0 to 80	−50 to 50	0 to 100	0 to 120	0 to 150	0 to 200	0 to 300
Union type	Ø8	90	75	75	70	70	70	70	70	45
	Ø10	70	60	60	60	60	60	60	60	45
	Ø12	65	65	65	50	50	50	50	50	40
Plain connection w/o thread	Ø8	105	90	90	85	85	85	85	—	—
	Ø10	85	75	75	75	75	75	75	—	—
	Ø12	110	110	110	100	100	90	90	—	—

REMOTE SENSING DIAL THERMOMETERS (STOCK ITEMS)

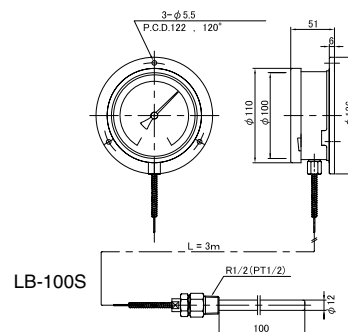
MODEL LB-100S / LB-150S / SB-100S (WALL-MOUNT BOTTOM OUTLET)



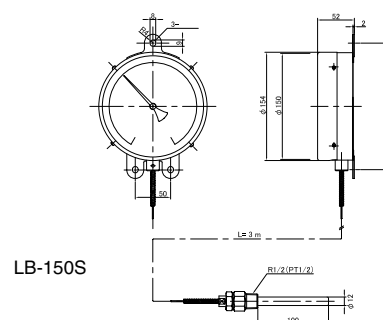
LB-100S



LB-150S



LB-100S



LB-150S

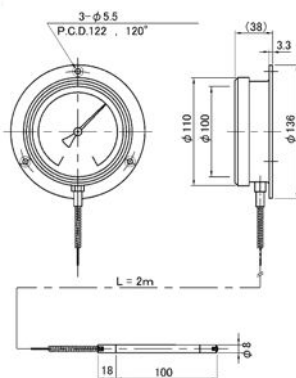
MUTUAL SPECIFICATIONS

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

MODEL VB-100P (WALL-MOUNT BOTTOM OUTLET)



SPECIFICATIONS

Model	VB-100P
Measuring range	0 to 80°C 0 to 100°C 0 to 120°C
Sensing element	Vapor
Case dia.	110mm (Dial dia.: 100mm)
Case construction	Splash-proof type
Materials Case	Six nylon + glass 30%
Window	Glass
Sensing stem	Plain connection w/o pipe thread Ø8 mm x 100 mm(L) CuT. + Nickel plating
Lead wire Length	2m (but, 1m for the range of 0 to 80°C)
Materials	CuT. + Nickel plating

* Scale : unequal division

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.	154mm dia.
	Dial	75mm dia.	100mm dia.	150mm dia.
Case construction		Splash-proof type		
Sensing element		Solid liquid		
Range		-50 to 300°C (See page 35)		
Materials	Case	SUS304		
	Window	Glass (option: Acryl)		
	Sensing stem	SUS304		
	Lead wire	SUS304		
Sensing stem dia.		8, 10, 12mm		
Mount (Q'ty x hole dia.)		3 x Ø5mm	3 x Ø5.5mm	3 x Ø8mm

**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.	174mm square
	Dial	75mm dia.	100mm dia.	150mm dia.
Case construction		Splash-proof type		Indoor use
Sensing element		Solid liquid		
Range		-50 to 300°C (See page 35)		
Materials	Case	SUS304		Aluminum casting
	Window	Glass (option: Acryl)		
	Sensing stem	SUS304		
	Lead wire	SUS304		



LAS, SAS-100SO

RIGID STEM TYPE DIAL THERMOMETERS MODEL LAS-100SO / SAS-100SO (OIL-FILLED FOR VIBRATION-PROOF TYPE)

SPECIFICATIONS

Cat. No.	3053-L	3453-S
Model	LAS-100SO	SAS-100SO
Dimensions Case	101mm dia.	
Dial	90mm dia.	
Case construction	Splash-proof type (Rate: IPX1)	
Sensing element	Solid liquid	Mercury
Range	-150 to 300°C (See page 35)	-50 to 650°C (See page 35)
Material of oil	Silicon	
Materials Case	SUS304	
Window	Glass (option: Acryl)	
Sensing stem	SUS304	
Sensing stem dia.	10 mm	



LAF-100S

LAL-100S

LAT-100S

LAS-100S

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 (Rate: IPX1)			
Sensing element	Solid liquid			
Range	-150 to 300°C (See page 35)			
Materials Case	SUS304			
Window	Glass (option: Acryl)			
Sensing stem	SUS304			

REMOTE SENSING DIAL THERMOMETERS w/ELECTRIC CONTACT MODEL LB-75E / LB-100SE (WALL-MOUNT BOTTOM OUTLET)

SPECIFICATIONS

Cat. No.	3150-L	3110-L
Model	LB-75E	LB-100SE
Dimensions Case	85mm dia.	110mm dia.
Dial	75mm dia.	100mm dia.
Sensing element	Solid liquid	
Range	-150 to 300°C (See page 35)	
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	



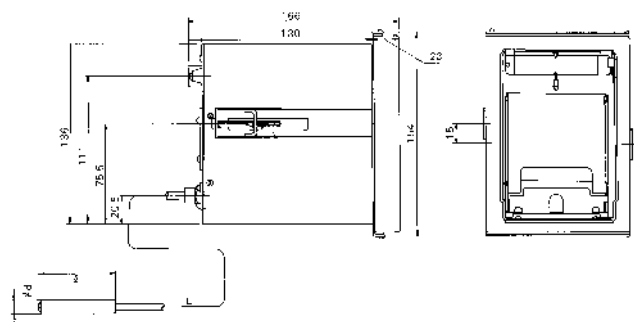
LB-75E

LB-100SE

LB-100SE


No. 3750-L ULTRA LOW TEMPERATURE RECORDER MODEL LMMC-1
Solid liquid actuated 1 point recording
SPECIFICATIONS

Case:	SPCC
Finish:	Melamine-baked plating
Window:	AS resin, transparent
Lead wire:	Flexible tube (SUS304) Length: 2 m (available up to 3m at option)
Sensing bulb:	NS type (plain connection w/o pipe thread) SUS304 Dimensions: Ø10 x 80mm (available up to 200mm at option)
Electric contact point:	Lead switch type 1 point contact (option)
Alarm preset temp. range:	Refer to the chart
Chart drive:	Quartz motor
Power requirements:	1.5 VDC ("C" size battery x 1)
Battery life:	about 1 year (in continuous use)
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. 3750-53 CPV-77 Cartridge pen (violet)
Accessories:	6 pcs. of chart, 2 cartridge pens, "C" size battery x 1, fittings

**TEMPERATURE RANGES AND CHARTS**

Temp. range (°C)	Min. DIV.	For LMMC-1	Alarm preset (°C)
-100 to 50	5	2L-10040	-80 to -10
-50 to 50	2.5	2L-T40	-30 to 0
-50 to 100	5	2L-50100	-30 to 30
0 to 100	2.5	2L-T40	20 to 10
0 to 150	5	2L-0150	20 to 80
0 to 200	5	2L-T40	40 to 100

(6 pcs./box for 1 year use)

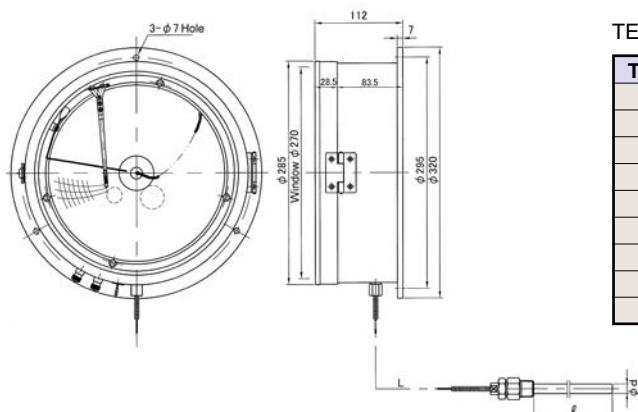

No. 3720-L TEMPERATURE RECORDER MODEL LSY-A1
Solid liquid actuated 1 point recording
(2-point recording type (LSY-A2) is available)
SPECIFICATIONS

Case & cover:	Aluminum Cast Alloy (ADC)
Finish:	Melamine-baked plating
Window:	Glass
Lead wire:	Flexible tube (SUS304) Length: up to 3m
Sensing bulb:	SW (union) type connection with PT1/2" screw (SUS304) Length: up to 200mm
Chart drive:	DC, AC and spring-wound driven (selectable at ordering)
Recording pen:	No. 7210-90 Cartridge pen (violet) for LSY-A1 No. CPW-II Cartridge pen (red and violet) for LSY-A2
Accessories:	100 sheets of chart, cartridge pen (factory set)

TEMPERATURE RANGES AND CHARTS

Temp. range (°C)	Min. 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

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

※ Bimetal type



No. 3990-60 BUZZER BOX MODEL BH-8

This buzzer box is used with a dial thermometer with electric contacts when the buzzer with large capacity (100VAC, 8VA) is required. The dial thermometer with electric contacts is available to set the point that the buzzer sounds.

Set the reference pointer to the point of target temperature with the front knob. The indicating pointer moves by the changes of temperature. When the indicating pointer reaches to the setting point and contacts with the reference pointer, an electric circuit is made to let the electric current flow into the coil of the buzzer, thus the buzzer sounds.

Sound volume: 75dB (distance: 1m)

Cord length: 1m

* Specify your power requirements.

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 range. The current which flow 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 does not occur.

No. 3990-01 RELAY UNIT MODEL RU-1 (STOCK item)

SPECIFICATIONS

Outer dimensions: 126 (W) x 50 (D) x 110 (H) mm

Installation sizes: 94.5 x 90 mm

Weight: 0.5 kg

Power requirement: 100/200VAC 50/60Hz

Rated

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

* Specify your power requirements.

No. 3990-02 RELAY UNIT MODEL KR-A2

Selectable either one at ordering

* Two contacts for upper limits or lower limits

* Two contacts for upper and lower limits

SPECIFICATIONS

Outer dimensions: 120 (W) x 77 (D) x 160 (H) mm

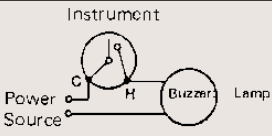
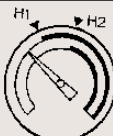
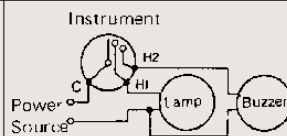
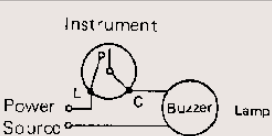
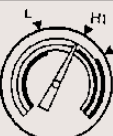
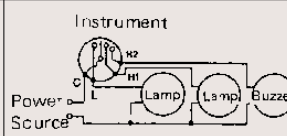
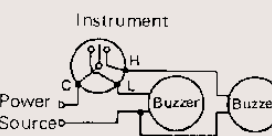
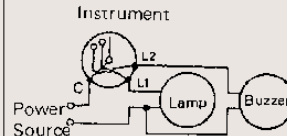
Weight: 1.3 kg

Rated

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

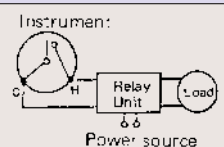
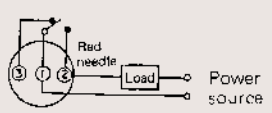
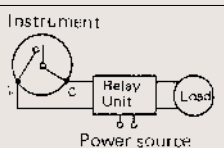
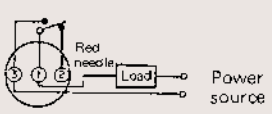
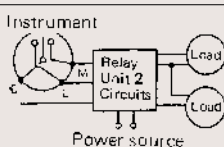
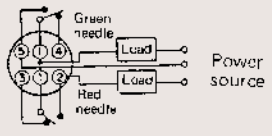
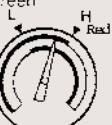
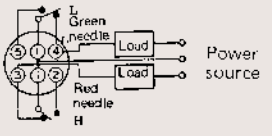
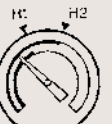
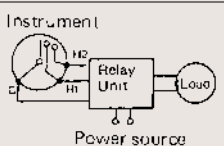
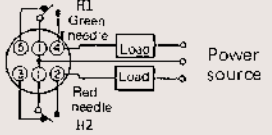
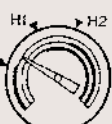
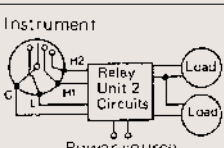
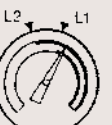
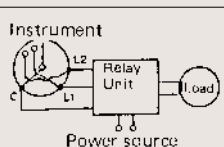
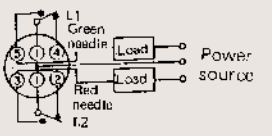
* Specify your power requirements.

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

Switch Mode (pointer moves clockwise)	Contact Point System (example for connection)	Type No.	Switch Mode (pointer moves clockwise)	Contact Point System (example for connection)	Type No.
 Upper limit 1 contact point		CU1	 Upper limit 2 contact points		CU2
 Lower limit 1 contact point		CL1	 Upper limit 2 contact points Lower limit 1 contact point		CU2L1
 Upper limit 1 contact point Lower limit 1 contact point		CUL1	 Lower limit 2 contact points		CL2

* In case a buzzer or lamp etc. with large load are used, use a buzzer box (refer to page 40).

SWITCH MODE FOR CONTROL (*1)

Switch Mode (pointer moves clockwise)	Contact Point System + Relay Unit (example for connection) (RU-1) (KR-A2)	Type No.	Micro Switch System	Type No.
 Upper limit 1 contact point		CH1RU CH1KR		MS1
 Lower limit 1 contact point		CL1RU CL1KR		becomes the switch mode stated in the left by wiring
 Upper limit 1 contact point Lower point 1 contact point		CUL1RU CUL1KR		MS2
 Upper limit 1 contact point Lower limit 1 contact point				MS2
 Upper limit 2 contact points		CU2RU CU2KR		becomes the switch mode stated in the left by wiring
 Upper limit 2 contact points Lower limit 1 contact point		CU2L1RU CU2L1KR		
 Lower limit 2 contact points		CU2RU CU2KR		

(*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 40) of relay unit.

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 $\pm 5\%$ (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 $\pm 5^\circ$ Wind speed: Within ± 0.5 m/sec. at less than 10 m/sWithin $\pm 5\%$ at more than 10 m/sMeasuring system: Instant and mean (CR integration $t = 120$ sec.)Power requirement: 100 VAC $\pm 10\%$ 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 $\pm 5\%$ (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 $\pm 5^\circ$ Wind speed: Within ± 0.3 m/s under 5 m/sWithin $\pm 5\%$ of indicated value over 5 m/sPower requirement: 100 VAC $\pm 10\%$ 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. 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
 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)
 Wind speed: 2 to 60 m/s (min. scale 1 m/s)
 (option: 2 to 70m/s)
 Accuracy: Wind direction: within ±5°
 Wind speed: within ±0.5 m/s at less than 10 m/s
 within ±5% at more than 10 m/s
 Power requirement: 100 VAC±10%
 Operating ambient: -10 to 50°C, 40 to 85% RH
 Dimensions: 300 (W) x 170 (H) x 150 (D) mm
 Weight: Approx. 3.6 kg

**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
 Within ±5% at more than 10 m/s
 Power requirement: Self-generated
 Dimensions: Sensor: 304 (W) x 353 (H) x 130 (D) mm
 Indicator: 180 (W) x 180 (H) x 131 (D) mm
 Weight: Sensor: 1.0 kg
 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
 Within ±5% at more than 10 m/s
 Power requirement: 100VAC (50/60Hz)
 Dimensions: Sensor: 304 (W) x 353 (H) x 130 (D) mm
 Indicator: 200 (W) x 169 (H) x 191 (D) mm
 Weight: Sensor: 1.0 kg
 Indicator: 2.4 kg

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 ± 0.5 m/s at less than 10 m/s
 Within $\pm 0.5\%$ at more than 10 m/s

Alarm

Alarm set: 2 points
 Range for setting: 0 to 60 m/s
 2 digits digital switch
 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)
 Contact capacity (120 VAC 5A, 30 VDC 4A)
 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 ± 1 m/s at less than 10 m/s
 Within $\pm 10\%$ at more than 10 m/s

Starting wind speed: 1.5 m/s

Withstand wind speed: 40 m/s

Outer dimensions: $\varnothing 174 \times 313$ (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
 Wind direction: Counterbalanced vane
 Measuring range: Wind speed: 2 to 30 m/s
 Wind direction: 360°

Graduation for wind direction: 16 cardinal points

Accuracy (Wind speed): Within ± 1 m/s at less than 10 m/s
 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. 7932-02 DIGITAL RAIN GAUGE WITH ALARM****Components:** Rainfall sensor, Indicator, 20 m cable**SPECIFICATIONS****Sensor**

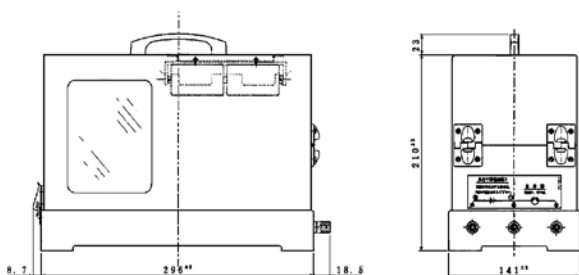
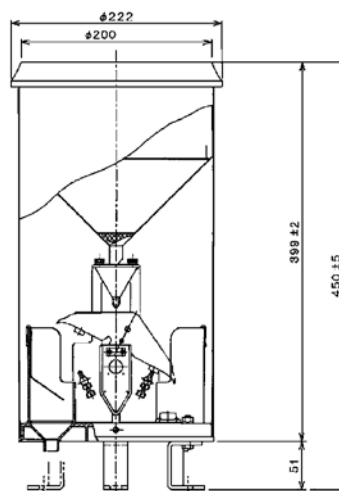
Type of sensor: Tipping bucket type rainfall sensor
 Output: 1 contact point pulse per 0.5 mm of rainfall amount
 Dimensions: Ø200 x 450 (H) mm
 Weight: Approx. 2.2 kg

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)
 Operating 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)

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: $\pm(0.3+1 \text{ digit})\text{pH}$ at 0 to 2pH $\pm(0.1+1 \text{ digit})\text{pH}$ at 2 to 12pH $\pm(0.4+1 \text{ digit})\text{pH}$ at 12 to 14pH Temp.: $\pm 0.5^\circ\text{C}$ at 20 to 30°C, $\pm 0.7^\circ\text{C}$ 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, 6F22 (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: $\pm 2\text{pH}$ Temp.: $\pm 0.6^\circ\text{C}$ at 20 to 30°C, $\pm 0.8^\circ\text{C}$ at other
Resolution:	0.01pH / 0.1°C
Elements:	pH: Glass electrode Temp.: Thermistor
Power requirements:	6VDC (3V Lithium button 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 button 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 (ATC)
(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 (Button 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		approx. 65 g (including batteries)		
Standard accessories		Button battery LR44 (GPS76E) x 4		



No. 6427-00 DESKTOP TYPE DIGITAL PH METER MODEL SK-650PH**FEATURES**

- Sensor arm is helpful for continuous measurement
- Automatic temperature compensation function is provided
- Measured value, date and time are simultaneously displayed

SPECIFICATIONS

Display range	: pH : 2.0 to 12.0pH	Temp.: 0.0 to 50.0°C
Repeatability	: pH : $\pm(0.01 + 1 \text{ digit})\text{pH}$	Temp.: $\pm(0.1 + 1 \text{ digit})^\circ\text{C}$
Resolution	: pH : 0.01pH	Temp.: 0.1°C
Functions	: 3 points calibration (pH4.01, pH6.86 and pH10.01 or pH9.18) Hold, Time display, Memory function (90 data, data max/min) Analog output (output electro motive force of pH sensor) Sensor sensitivity, stable display displays, real-time transmission (RS-232C)*	
Power requirements	: exclusive AC adapter (in 100 to 240VAC use)	
Dimensions	: 215(W) x 170(L) x 58(T) mm	
Weight	: approx. 615g	
Accessories	: Sensor arm assembly, AC adapter (100 to 240VAC) (Probe is not included in the standard accessories)	

* Various probes are available. Please visit our web site

* RS-232C cable is available at option

**PEN TYPE DIGITAL PH METERS**

No. 6428-00 MODEL SK-660PH

No. 6429-00 MODEL SK-661PH

No. 6430-00 MODEL SK-662PH

FEATURES

- Auto temperature compensation (ATC)
- Waterproof construction conforming to JIS C 0920 IPX5
- 3 points calibration (pH4.01, pH6.86 and pH10.01 or pH9.18)
- Replaceable sensors

**SPECIFICATIONS**

Model		SK-660PH	SK-661PH	SK-662PH
Measuring range	pH	2.0 to 12.0pH	0.0 to 14.0pH	0.0 to 14.00pH
	Temp.	0.0 to 50.0°C	0.0 to 50.0°C	0.0 to 50.0°C
Accuracy	pH	$\pm 0.3\text{pH}$	$\pm 0.2\text{pH}$	$\pm 0.05\text{pH}$
	Temp.	$\pm 1.0^\circ\text{C}$	$\pm 1.0^\circ\text{C}$	$\pm 0.5^\circ\text{C}$
Resolution	pH	0.1pH	0.1pH	0.01pH
	Temp.	0.1°C	0.1°C	0.1°C
Sensing elements	pH	Glass electrode (no need to refill KCL)		
	Temp.	Thermistor		
Functions		Auto Power-off, Hold, Sensor sensitivity display, stability display		
Power requirement		6VDC (Button battery (LR44) x 4)		
Materials		Case: ABS resin Sensor: glass		
Dimensions & weight		$\varnothing 38 \times 171(\text{L})$ mm, approx. 82g (including batteries)		
Accessories		Button battery (LR44) x 4, hand strap		

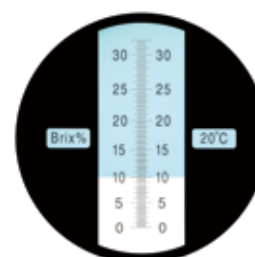
R SERIES HAND HELD REFRACTOMETERS

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



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%	0.2%	0.5%	0.5%	0.2%
Grip dia.	29 mm	29 mm	29 mm	29 mm	29 mm	29 mm	29 mm	29 mm
Length	170 mm	160 mm	195 mm	195 mm	150 mm	145 mm	155 mm	170 mm
Weight	105 g	105 g	120 g	120 g	100 g	100 g	100 g	105 g
Materials	Main unit: Aluminum alloy Prism: Optical glass Adjusting screw: Copper				Cover plate: Polycarbonate Grip: Synthetic 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

**No. 8050-00 WALL-MOUNT WATERPROOF DIGITAL THERMOMETER
MODEL SK-100WP**

SPECIFICATIONS

Measuring range	: -10.0 to 110.0°C
Resolution	: 0.1°C
Sampling time	: Approx. 10 sec.
Waterproof property	: IP X7 rated
Power requirement	: "AAA" size battery x 4 pcs.
Battery life	: Approx. 1 year continuous (with alkaline batteries in normal temperature)
Dimensions	: 122(W) x 85(H) x 30(D)mm
Weight	: Approx. 205g (including batteries)
Accessories	: "AAA" size manganese battery x 4 pcs.

No.8051-00 STANDARD PROBE MODEL S100WP-01

Measuring range	: -10.0 to 110.0°C
Accuracy	: ±1°C
Sensing element	: Thermistor
Waterproof property	: IP X7 rated
Dimensions	: Ø5 x 500mm (L) (round-end)
Cord length	: 1.5m (available to extend cord length for ordering)
Weight	: Approx. 90g
Accessories	: Clip for holding stem



SK-100WP with S100WP-01 probe

No.8310-00 WBGT HEAT STRESS MONITOR MODEL SK-150GT
SPECIFICATIONS

	Air Temp.(TA)	Globe Temp. (TG)	WBGT Index	Relative Humidity
Measuring range	0.0 to 50.0°C	0.0 to 80.0°C	0.0 to 50.0°C	10.0 to 95.0%RH
Accuracy	±0.6°C	±2°C	±2°C	±3% at 20 to 90%RH, at 20 to 30°C ±5% at other than above
Resolution	0.1°C	0.1°C	0.1°C	0.1%
Sampling time	Approx. 2 seconds			
WBGT alarm	Setting range 20.0 to 49.9°C (no cancelation)			
Operating ambient	0 to 50°C less than 95%rh (no condensing)			
Storage ambient	-10 to 50°C (no condensing)			
Functions	Change-over switch for WBGT Index of indoor and outdoor Auto power-off, MAX/MIN, HOLD			
Power requirement	9VDC (6F22 (006P) battery x 1)			
Battery life	Approx. 600 hours in continuous use (w/o use of alarm)			
Dimensions	Main Unit : 71 (W) x 27.5 (H) x 30 (D) mm, Globe : Ø 60 mm			
Weight	Approx. 240 g (including battery)			
Standard accessories	6F22 (006P) battery x 1, Carrying case			


No. 8310-60 EXCLUSIVE TRIPOD MODEL EX-430SK

The tripod is recommended for continuous measurement. Select a location free from effects of radiation heat.

Height: 1513mm Weight: 1.2kg

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AD-0601000-1	14	8008-90	Psychrometer	27	1518-00	SK-L200T II D	5	8161-10	SWP II-02M	13	8072-01
AD0601000-2	5	8161-50	Rain gauge	45	7932-02	SK-L200TH II α	5	8175-00	SWP II-03	13	8073-00
Anemometer	43	7760-00	Rainfall sensor	45	7980-S-40	SK-L200TH II α D	5	8175-10	SWP II-04M	13	8074-01
Anemometer	44	7763-2	RU-1	40	3990-01	SK-LT II-1	6	8162-00	SWP II-05M	13	8075-01
Anemometer	44	7720-00	S100WP-01	49	8051-00	SK-LT II-10	6	8167-04	SWP II-06M	13	8076-01
Anemometer	44	7730-00	SB-100S	39	3400-S	SK-LT II-2	6	8163-00	SWP II-07	13	8077-10
Aneroid	28	7610-20	SK-1	27	1519-00	SK-LT II-3	6	8164-00	SWP II-08	13	8077-20
August	27	7320-00	SK-100R	48	0180-00	SK-LT II-4	6	8165-00	SWP II-09	13	8077-30
Aurora90 III	22	7012-00	SK-100WP	49	8050-00	SK-LT II-5	6	8166-00	SWP II-10	13	8077-40
Axial fan	20	7238-22	SK-101R	48	0181-00	SK-LT II-6	6	6167-00	TH-300	25	1013-00
Baromex	28	7612-00	SK-102R	48	0182-00	SK-LT II-7	6	8167-01	Tripod	26	7450-40
BH-8	40	3990-60	SK-104R	48	0184-00	SK-LT II-8	6	8167-02	U-Tube	27	1506-00
BM-S-100P	32	2085-B	SK-106R	48	0186-00	SK-LT II-9	6	8167-03	U-Tube	27	1506-50
BM-S-75P	32	2078-B	SK-107R	48	0187-00	SK-LTT II α -1	6	8176-00	Wicks	26	7450-70
BM-S-90S	31	2010-B	SK-109R	48	0189-00	SK-LTT II α -2	6	8177-00			
BM-T-100P	32	2080-B	SK-110TRH II-1	7	8111-00	SK-LTH II α -3	6	8178-00			
BM-T-75P	32	2075-B	SK-110TRH II-2	7	8112-00	SK-M350-T	9	8092-00			
BM-T-75S	31	2110-B	SK-110TRH II-3	7	8113-00	SK-M350-TRH	9	8092-50			
BM-T-90S	31	2030-B	SK-110TRH II-4	7	8114-00	SK-M460-T	9	8091-00			
Cartridge pen	24	7210-90	SK-110TRH II-5	7	8115-00	SK-M460-TRH	9	8091-50			
Cartridge pen	24	7210-92	SK-1110	16	8014-03	SK-RHC-C	8	8920-04			
Compact stand	26	7450-30	SK-1120	16	8014-04	SK-RHC-I	8	8920-03			
DPU-414	14	8009-50	SK-120CHB	23	6000-00	SK-RHCS-1	8	8921-00			
Dust cover	24	7238-20	SK-1260	14	8080-05	SK-RHCS-2	8	8922-00			
Event recorder	45	7820-00	SK-150GT	49	8310-00	SK-RHCS-3	8	8922-10			
EX-430EX	49	8310-60	SK-200R	48	0190-00	SK-RHC-V	8	8920-02			
Fortin	28	7640-00	SK-250WP II-K	12	8068-00	SK-RHC-V	8	8920-01			
HIGHEST I	25	7540-00	SK-250WP II-N	12	8062-00	SK-RHG	26	7450-00			

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, or any optional features listed in the specifications.

CUSTOM SYSTEMS:

Upon request, we, 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 Ex-works Tokyo basis.

TERMS OF PAYMENT:

Shipment to foreign destinations are against cash transfer to our bank account (advance payment).

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.

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Distributed by

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