

# DP-700



## General Description

The DP-700 is a high accuracy thermometer with powerful functions, such as data logging, USB connection, peak high and low temperature, burnout (Sensor broken) display, remaining battery service display and automatic power off. The variety of functions supports you to manage temperature data efficiently.

## Features

- ☆ Handheld Use
- ☆ Data Logging (Recording)
- ☆ Peak High and Low Temperature
- ☆ Various Display Information
- ☆ Easy to Reading and Manage Data with PC

### Handheld Use

- Fits in one hand for easy use
- Superior Display visibility and viewing angle



### Data Logging (Recording)

Measured temperature, date, time, and user name can be manually or automatically stored in memory.

DP-700A : Max 99 logs  
DP-700B : Max 9999 logs

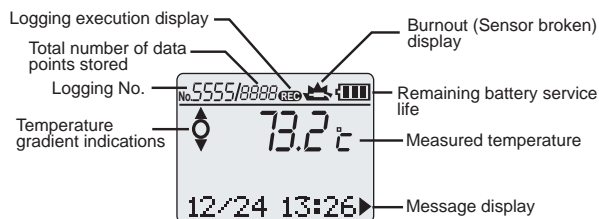
- When DP-700B is used, measured data can be stored in the file in the CSV format using the USB port of each personal computer.

### Peak high and low temperature

The maximum and minimum measured-temperature can always be stored.

### Various Display Information

LCD indicates measured temperature, remaining battery service life, total number of data points stored.

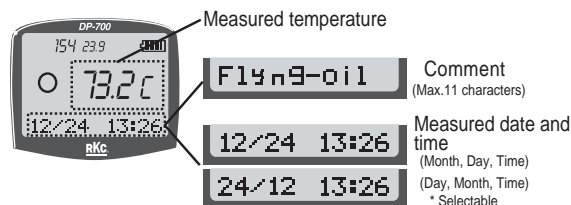
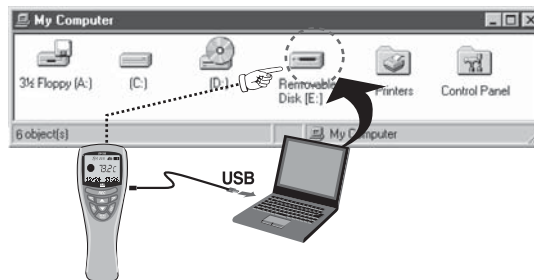


- Message display indicates measured date/time, user name, tag name and each message
- Measured temperature display indicates also peak high and low temperature and function.

### Easy to reading and manage data with PC

By connecting DP-700B to USB port, a PC recognizes DP-700B as outside media. Like a floppy disk, a PC read data of DP-700B. Measured data can be stored in the file in the CSV format.

\* OS : Windows Me/2000/XP



## Specifications

### Input and Measuring Range

Universal input	
Thermocouple K	-200 to +1372°C (Resolution: 1°C) -328 to +2501°F (Resolution: 1°F) -199.9 to +999.9°C (Resolution: 0.1°C) -199.9 to +999.9°F (Resolution: 0.1°F)
Thermocouple J	-200 to +1200°C (Resolution: 1°C) -328 to +2192°F (Resolution: 1°F) -199.9 to +999.9°C (Resolution: 0.1°C) -199.9 to +999.9°F (Resolution: 0.1°F)
RTD Pt100	-200 to +850°C (Resolution: 1°C) -328 to +1562°F (Resolution: 1°F) -199.9 to +850.0°C (Resolution: 0.1°C) -199.9 to +999.9°F (Resolution: 0.1°F)

### Sampling Time

Approx. 0.5 sec

### Performance

#### Measurement Accuracy

- ±(0.1% of + 1digit) or ±0.3°C(±0.6°F) (Whichever is is larger)
- Cold junction temperature error
- ±0.5°C(±0.9°F) [Between 5 and 40°C (41 and 104°F)]
- ±1.0°C(±1.8°F) [Between -20 and 5°C (-4 and 41°F),  
40 and 50°C (104 and 122°F)]

#### Ambient temperature influence

- ±0.01% of span / °C [Between 5 and 40°C (41 and 104°F)]
- ±0.02% of span / °C [Between 5 and 40°C (41 and 104°F)]

#### Display

##### Reflective FSTN LCD

- Measuring value (PV) : 4-digit, Logging (Recording) No : 4-digit,
- Total number of logging data : 4-digit, Message : 68 x 8 dots
- Logging execution : Lit during execution
- Burnout (Sensor broken) : Lit when the sensor is broken.
- Remaining battery service life : The remaining battery service life is indicated in three steps.
- Temperature unit : 12 x 8 dots (°C/°F)

### Data Logging (Recording)

- Recording method: Manual log mode : Can be manually recorded in the memory.
- Interval log mode : Can be automatically recorded (in a set interval)
- Interval time: 0 (Manual log mode), 1 to 3600 sec
- Recording items: Measured temperature, Date, Time, Tag name, User No.
- Recording capacity: DP-700A: Max. 99 logs  
DP-700B: Max.9999 logs
- Memory backup: DP-700A: Backed up by SRAM  
The recorded data may be lost if battery service life has expired or the battery is replaced.
- DP-700B: Backed up by EEPROM  
Number of writing : Approx. 100,000 times  
Data retaining period: Approx. 10 years

### Temperature Gradient Indication

The evaluation points of high and low temperature are set. When within the evaluation points, "O" is displayed while when out of the evaluation point, "X" is displayed.

### Tag Number Function

- Number of maximum registration: DP-700A: 5 tags  
DP-700B: 99 tags
- Registration items: Tag name, evaluation points of high and low temperature
- Tag name: 11 characters (Numeral, Alphabets, Symbols)
- Memory backup: Same as Memory backup of data logging

### User Name Function

- Any user name can be registered for each user number.
- Logging data can store into register name.
- Number of maximum registration : 99 names,
- Number of character : 11 characters (Numeral, Alphabets, Symbols)
- Memory backup: Same as Memory backup of data logging

### USB Function (Only for DP-700B)

- Interface: USB (Universal Serial Bus) Ver2.0
- Communication speed: Full Speed compliant
- Connector type: USB series Mini-B
- Power supply: Bus power (The power is supplied from the USB port on the PC side.
- Device class: Mass Storage Class (Bulk-Only Transport)

### Waterproof /Dustproof

- DP-700A : IP67, DP-700B : IP54

### Other Functions

- Peak high and low temperature
- PV bias: -99.9 to +99.9°C (°F)
- PV digital filter: 0 to 100 sec (0 : OFF)
- Calendar timer (year, month, date, hour, minute)
- Operation lock, Self-diagnostic

### Power

- Type LR6 (based on IEC and JIS) alkaline battery, One battery
- Battery life: Approx. 400 hours (Continuous operating time, Around the ambient temperature 23°C)

### Operating Environments

- 20 to +50°C
- 5 to 95%RH (Absolute humidity: Max. W.C 29g/m<sup>3</sup> dry air at 101.3kPa.)

### Net Weight

- Approx.450g (Including LR6 Alkaline battery)

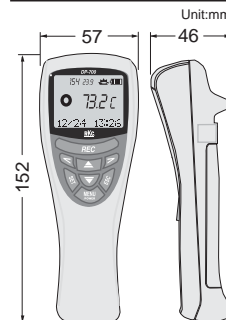
### Accessories

- LR6 (IEC and JIS) Alkaline battery, Strap, USB cable 1m (Only for DP-700B)

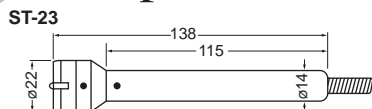
## External Dimensions Model Code

Model Code	Specifications
DP-700A/E	No USB, Data logging : 99 logs, Waterproof/Dustproof : IP67 Data backup : Backed up by SRAM
DP-700B/E	With USB, Data logging : 9999 logs, Waterproof/Dusproof:IP54 Data backup : Backed up by EEPROM

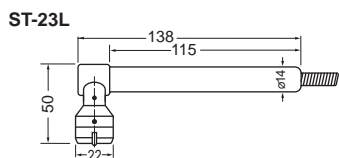
DP-700A allows for temporary immersion in water. DP-700B is water resistant to splashing. It is not suitable to be immersed in water.



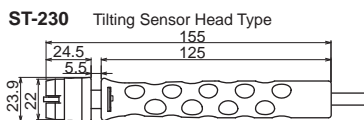
## Temperature Sensors (Type K Thermocouple)



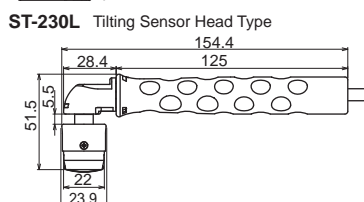
For static surface  
Temperature range  
: 0 to 300°C (Non-condensing)  
Model Code : ST-23-K-1000-6C/A



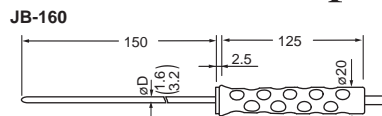
For static surface  
Temperature range  
: 0 to 300°C (Non-condensing)  
Model Code : ST-23L-K-1000-6C/A



For static surface  
Temperature range  
: -40 to 300°C (Non-condensing)  
Model Code : ST-230-K-1000-6C/F

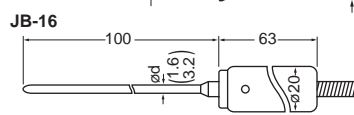


For static surface  
Temperature range  
: -40 to 300°C (Non-condensing)  
Model Code : ST-230L-K-1000-6C/F

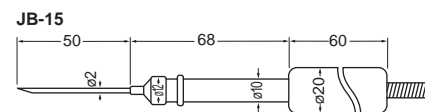


For semi-solid, viscous material and liquid

Temperature range  
: 0 to 650°C (ø1.6) (Non-condensing)  
0 to 750°C (ø3.2) (Non-condensing)



Model Code :  
JB-160  
ø1.6 : JB-160-K-1.6-150-1000-6C/F  
ø3.2 : JB-160-K-3.2-150-1000-6C/F  
JB-16  
ø1.6 : JB-16-K-1.6-100-1000-6C/A  
ø3.2 : JB-16-K-3.2-100-1000-6C/A



For semi-solid, viscous material and liquid  
Temperature range  
: 0 to 400°C (Non-condensing)  
Model Code : JB-15-K-1000-6C/A

