

# Model **HD-1000 series** Handheld Thermometer



Model HD-1000 series handheld thermometers allow easy temperature measurement.

These general-purpose thermometers can be used for on-site temperature measurement and various other applications.

HD-1000模式系列

追求高精度，可靠性，操作简单的HD-1000系列可以和安立计器的多种多样的温度传感器配合使用于不同领域。

HD-1000シリーズは、簡単に温度測定が出来るハンディタイプの温度計測器です。現場での温度チェックなど、汎用にご使用いただけます。

HD-1150K  
HD-1150E



HD-1150K

HD-1250K  
HD-1250E



HD-1250K

HD-1350K  
HD-1350E



HD-1350K

HD-1450K  
HD-1450E



HD-1450K

HD-1550K  
HD-1550E



HD-1550K

## Function of HD-1000 series

| ASP model            | ANP model            | WATER PROOF | DISPLAY | BACK LIGHT | AUTO OFF | HOLD | P/V HOLD | 1/0.1 | CAL | ALARM | ANALOG  | °C / °F | MEMORY |
|----------------------|----------------------|-------------|---------|------------|----------|------|----------|-------|-----|-------|---------|---------|--------|
| HD-1100K<br>HD-1100E | HD-1150K<br>HD-1150E | ●           | LCD     |            | ●        | ●    |          |       |     |       |         | °C      |        |
| HD-1200K<br>HD-1200E | HD-1250K<br>HD-1250E | ●           | LCD     | ●          | ●        | ●    | ●        | ●     |     |       |         | °C      |        |
| HD-1201K<br>HD-1201E | HD-1251K<br>HD-1251E |             | LCD     | ●          | ●        | ●    | ●        | ●     |     |       | 1mV/°C  | °C      |        |
| HD-1202K<br>HD-1202E | HD-1252K<br>HD-1252E |             | LCD     | ●          | ●        | ●    | ●        | ●     |     |       | 10mV/°C | °C      |        |
| HD-1300K<br>HD-1300E | HD-1350K<br>HD-1350E |             | LCD     | ●          | ●        | ●    | ●        | ●     | ●   | ●     |         | °C      |        |
| HD-1301K<br>HD-1301E | HD-1351K<br>HD-1351E |             | LCD     | ●          | ●        | ●    | ●        | ●     | ●   | ●     | 1mV/°C  | °C      |        |
| HD-1302K<br>HD-1302E | HD-1352K<br>HD-1352E |             | LCD     | ●          | ●        | ●    | ●        | ●     | ●   | ●     | 10mV/°C | °C      |        |
| HD-1400K<br>HD-1400E | HD-1450K<br>HD-1450E | ●           | LED     |            | ●        | ●    |          |       |     |       |         | °C      |        |
| HD-1500K<br>HD-1500E | HD-1550K<br>HD-1550E |             | LCD     | ●          | ●        | ●    | ●        | ●     |     |       |         | °C      | ●      |
|                      | HD-1650K<br>HD-1650E | ●           | LCD     |            | ●        | ●    |          |       |     |       |         | °C / °F |        |
|                      | HD-1750K<br>HD-1750E | ●           | LCD     | ●          | ●        | ●    | ●        | ●     |     |       |         | °C / °F |        |

## Connector type 连接传感器

2 types of connectors available  
有2种插口可供选择。




















ASP:  
Standard size connector


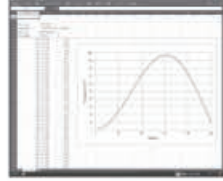


ANP:  
Miniature size connector

## Functions 功能

|  |  |
|--|--|
| <p><b>Waterproof specifications 防水功能</b></p> <p>Waterproof specifications : Equivalent to IPX5<br/>Protected against water jets- Water projected at all angles through a 6.3mm nozzle at a flow rate of 12.5 liters/min at a pressure of 30kN/m<sup>2</sup> for 3 minutes from a distance of 3 meters.<br/>IPX5防水功能。可防御来自任何方向的喷水(12.5L/分)。</p>   | <p><b>Memory function 记录功能</b></p> <p>Stores readings at user - selected time intervals. User specified time interval and the remaining amount of memory are displayed on the sub-display. The playback function allows you to check data stored in memory.<br/>设定记录间隔和剩余可记录数同时显示。可回放显示所记录的温度数据。</p>  |
| <p><b>Display 显示</b></p> <p>Large easy - to - read LCD display<br/>便于确认的大型显示屏</p>  | <p><b>Backlight 背光灯</b></p> <p>The backlight will operate by the  key and the LCD display will be visible even in a dark place.<br/>按  键打开背光灯，可在黑暗处确认数据</p>  |
| <p><b>AUTO OFF Auto power - off 自动关闭</b></p> <p>The thermometer will turn the power off automatically after 5 minutes.<br/>5分钟以上不使用按钮，主机将自动关闭。</p>    | <p><b>1/0.1 Resolution change 分辨率切换</b></p> <p>Press the  key to change the resolution of readings.<br/>按  键切换分辨率</p>               |
| <p><b>HOLD Hold 固定测量数据</b></p> <p>The thermometer stops measurement by the  key and holds the present readings.<br/>按  键，可固定测量数据并保持该数据的显示。</p>  | <p><b>P/V HOLD P / V Hold P/V 值固定</b></p> <p>The peak (Max.) value and the valley (Min.) value can be displayed by the  key on the sub-display.<br/>可固定测量温度的最大值或最小值</p>   |
| <p><b>CAL SET Calibration 校准</b></p> <p>The displayed value can be adjusted by the  key.<br/>可设定测量标准值。</p>   | <p><b>ALM SET Alarm output 报警输出</b></p> <p>The thermometer gives an alarm when readings go beyond the high or low limits.<br/>表示温度超出设定范围外时，可显示·蜂鸣·信号输出进行警告。</p>   |
| <p><b>Analog output 模拟输出</b></p> <p>1mV/°C Output 1mV per °C in conjunction with readings.<br/>10mV/°C Output 10mV per °C in conjunction with readings.<br/>电压输出时1°C为1mV或1°C为0.1mV。</p>  | <p><b>°C / °F °C / °F Change °C / °F 切换</b></p> <p>Press the  key to change the temperature unit of the displayed temperature.<br/>按  键切换°C与°F。</p>  |

## Software for HD-15\*0 (AMS-100) 专用软件

|  |   |
|--|---|
| <p>Data stored in memory can be transmitted to a personal computer through a USB interface and can be converted into CSV files.<br/>可用USB导线将数据传到电脑，以CSV形式保存。</p>  | <p>Easily create graphs and tables from CSV files by Microsoft® Excel® or other spreadsheet software.<br/>用Excel等软件进行制表·画图。</p>  |
|--|---|

## Operational environment of software (AMS-100)

|                          |   |
|--------------------------|---|
| O S                      | Microsoft® Windows® 7, Windows® 8.1, Windows® 10(for English) |
| Memory · Hard-disk space | Normal operating environment of OS                            |

※ All PCs under the recommended environment are not guaranteed to work successfully with AMS-100.

※ AMS-100 can be used only by the user that has a system administrative right (Administrator).

※ AMS-100 does not support Mac OS.

※ Microsoft® Windows® 7, Windows® 8.1, Windows® 10 and Excel® are registered trademarks of Microsoft Corporation in the United States and other countries.



※ Image picture of waterproof specifications  
 ※ 防水功能图片



※ Image picture of temperature measurement  
 ※ 测量温度图片

## ● Supplied accessories and Optional accessories 附件和选件

### Supplied accessories

Test report  
 试验成绩书



Soft case  
 主机套



SCHD  
 Thermometer not included  
 不包括本体。

Hand strap  
 手带



Thermometer not included  
 不包括本体。

### Optional accessories

AC-Adaptor  
 AC电源

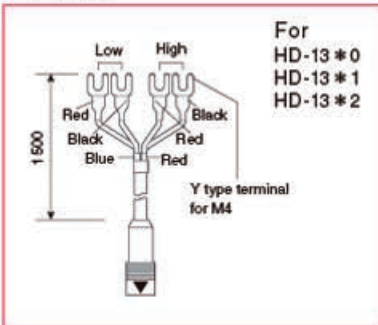


For  
 HD-12\*1  
 HD-12\*2  
 HD-13\*\*  
 HD-15\*0

AD-115-500-HR-R (for AC115V)  
 AD-220-500-HR-R (for AC220V)  
 Not CE-approval

### Supplied accessories

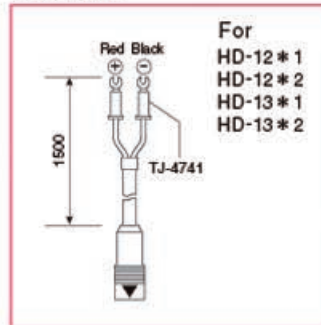
Alarm output cable  
 报警输出线



For  
 HD-13\*0  
 HD-13\*1  
 HD-13\*2

ALMHA-1.5

Analog output cable  
 模拟输出线



For  
 HD-12\*1  
 HD-12\*2  
 HD-13\*1  
 HD-13\*2

ANGHA-1.5

Communication cable  
 通信用USB线



For  
 HD-15\*0

AM-USB (for USB)

Software for HD-15\*0 (CD-ROM)  
 软件



For  
 HD-15\*0

AMS-100

※ An alarm output cable and an analog output cable cannot be used simultaneously.  
 ※ 不能同时使用报警输出线和模拟输出线

## Specifications

| Model  | HD-1100<br>HD-1150<br>HD-1650  | HD-1200<br>HD-1250<br>HD-1750   | HD-1201<br>HD-1251  | HD-1202<br>HD-1252  | HD-1300<br>HD-1350 | HD-1301<br>HD-1351 | HD-1302<br>HD-1352 | HD-1400<br>HD-1450 | HD-1500<br>HD-1550                      |  |
|--|--|---|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|---|--|
| Waterproof specifications / Equivalent to IPX5 | ●  | ●   |                     |                     |                    |                    |                    | ●                  |   |  |
| Display  | LCD  |   | LCD with Backlight  |                     |                    |                    |                    | LED                | LCD with Backlight                      |  |
| Input connector                                | ASP model : HD-1*0* / ANP model : HD-1*5*  |   |                     |                     |                    |                    |                    |                    |   |  |
| Channel  | 1ch  |   |                     |                     |                    |                    |                    |                    |   |  |
| Input type                                     | Thermocouple input : Type E or K (HD-1*0*) / Type E, K, J, T or R (HD-1*5*) Not switchable |   |                     |                     |                    |                    |                    |                    |   |  |
| Signal source resistance                       | MAX 500Ω   |   |                     |                     |                    |                    |                    |                    |   |  |
| Measurement range                              | *TABLE I   |   |                     |                     |                    |                    |                    |                    |   |  |
| Measurement accuracy                           | *TABLE II  |   |                     |                     |                    |                    |                    |                    |   |  |
| Reference junction compensation accuracy       | ±0.2°C at 25°C±10°C [±0.4°F at 77°F±18°F]  |   |                     |                     |                    |                    |                    |                    |   |  |
| Temperature coefficient                        | ±0.01% of F / S per °C [±0.01% of F / S per °F] ※ F / S : full scale                       |   |                     |                     |                    |                    |                    |                    |   |  |
| Environmental                                  | Operation  | 0~40°C, 0~80%RH (Non condensing) [32~104°F, 0~80%RH (Non condensing)]   |                     |                     |                    |                    |                    |                    |   |  |
|  | Storage  | -20~50°C, 0~85%RH (Non condensing) [-4~122°F, 0~85%RH (Non condensing)] |                     |                     |                    |                    |                    |                    |   |  |
| Battery life                                   | 300h   | 300h  | 150h                | 150h                | 300h               | 150h               | 150h               | 150h               | 150h                                    |  |
| Power supply                                   | Dry battery  | 4 AA Alkaline batteries   |                     |                     |                    |                    |                    |                    |   |  |
|  | AC power   | —   | —                   | AC-Adaptor (Option) |                    |                    |                    | —                  | AC-Adaptor (Option)                     |  |
| Sampling rate                                  | approx. 300ms  |   |                     |                     |                    |                    |                    |                    | approx. 300ms *1                        |  |
| Plinearizer                                    | Digital linearizer method (Compliant with IEC 60584-1 (2013) )                             |   |                     |                     |                    |                    |                    |                    |   |  |
| Dimensions                                     | approx. 76(W) × 167(H) × 36(D) mm [Protruded parts excluded]                               |   |                     |                     |                    |                    |                    |                    |   |  |
| Weight   | approx. 350g [Include Batteries]   |   |                     |                     |                    |                    |                    |                    |   |  |
| Supplied accessories                           | Manual, Test report, Softcase, Hand strap, 4 AA Alkaline batteries                         |   |                     |                     |                    |                    |                    |                    |   |  |
|  | —  | —   | Analog output cable |                     | Alarm output cable |                    |                    | —                  | Communication cable, Software (AMS-100) |  |
| Analog output                                  | —  | —   | 1mV/°C              | 10mV/°C             | —                  | 1mV/°C             | 10mV/°C            | —                  | —                                       |  |
|  | —  | —   | *TABLE III          | *TABLE III          | —                  | *TABLE III         | *TABLE III         | —                  | —                                       |  |
| Alarm output                                   | —  | —   | —                   | —                   | ●                  | ●                  | ●                  | —                  | —                                       |  |
| Memory function                                | —  | —   | —                   | —                   | —                  | —                  | —                  | —                  | ● *TABLE V                              |  |
| Compatible standards                           | CE Marking, RoHS   |   |                     |                     |                    |                    |                    |                    |   |  |

\*1 Sampling period will be a user-selected time interval when time interval is specified at 10 seconds or more.

**\*TABLE I (Measurement range)**

| Thermocouple type | °C             |                  | °F             |                  |
|-------------------|----------------|------------------|----------------|------------------|
|                   | 1°C Resolution | 0.1°C Resolution | 1°F Resolution | 0.1°F Resolution |
| E                 | -200 ~ 800°C   | -100.0 ~ 500.0°C | -328 ~ 1472°F  | -148.0 ~ 932.0°F |
| K                 | -200 ~ 1370°C  |                  | -328 ~ 2498°F  |                  |
| J                 | -200 ~ 1100°C  |                  | -328 ~ 2012°F  |                  |
| T                 | -200 ~ 400°C   | -100.0 ~ 400.0°C | -328 ~ 752°F   | -148.0 ~ 752.0°F |
| R                 | 0 ~ 1760°C     |                  | 32 ~ 3200°F    |                  |

※ Switches automatically to 1°C resolution range when measured temperatures fall outside the 0.1°C resolution range.

**\*TABLE II (Measurement accuracy)**

| Thermocouple type | °C               |                                    | °F                                       |                |
|-------------------|------------------|------------------------------------|--|----------------|
|                   | 0.1°C Resolution | 1°C Resolution                     | 0.1°F Resolution                         | 1°F Resolution |
| E, K, J, T        | 0.1°C Resolution | 0°C ~ ± (0.05% of reading + 0.2°C) | 32°F ~ ± (0.05% of reading + 0.4°F)      |                |
|                   |                  | ~0°C ± 0.5°C                       | ~32°F ± 0.5°F                            |                |
|                   | 1°C Resolution   | 0°C ~ ± (0.1% of reading + 1°C)    | 32°F ~ ± (0.1% of reading + 2°F)         |                |
|                   |                  | ~0°C ± (0.5% of reading + 1°C)     | ~32°F ± (0.5% of reading + 2°F)          |                |
| R                 | 1°C Resolution   | ± (0.1% of reading + 3°C)          | 1°F Resolution ± (0.1% of reading + 6°F) |                |

**\*TABLE III (Analog output)**

| Model      | HD-12*1   | HD-13*1 | HD-12*2                       | HD-13*2 |
|------------|---|---------|-------------------------------|---------|
| Rate       | 1mV/°C  |         | 10mV/°C                       |         |
| Range      | All range at 1°C resolution   |         | All range at 0.1°C resolution |         |
| Resistance | 100Ω  |         |                               |         |
| Accuracy   | ± (0.15% of F/S + 1mV) at 25°C±5°C<br>± (0.15% of F/S + 1mV) ± (0.01% of F/S) except 25°C±5°C |         |                               |         |

**\*TABLE IV (Alarm output)**

| Output pattern                | Upper limit | Lower limit |
|-------------------------------|-------------|-------------|
| More than upper limit         | H (5V)      | L (0V)      |
| Between upper and lower limit | L (0V)      | L (0V)      |
| Less than lower limit         | L (0V)      | H (5V)      |

※ Signal current of up to 5 mA can be taken out.

**\*TABLE V (Memory function)**

|                 |   |
|-----------------|---|
| Time interval   | 1second, 5 seconds, 10 seconds, 30seconds, 1minute, 5 minutes, 10minutes, 30 minutes, 60minutes and manual memory |
| Memory capacity | 9999 data   |