

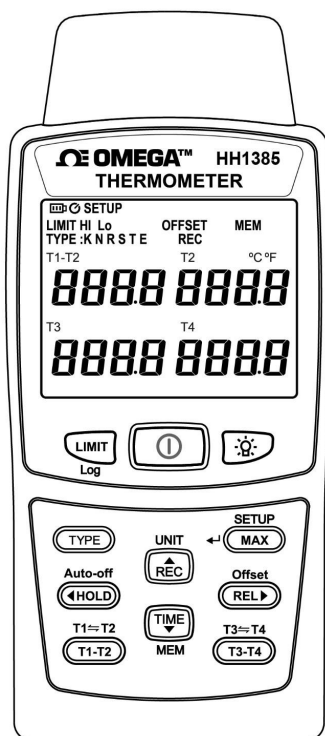


Ω OMEGA™ **User's Guide**

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HH1385 **4-Channel Thermometer**

1. Introduction



The HH1385 is a digital 4 input thermometer and data logger that works with any K, J, E, T, R, S, N type thermocouple temperature sensors. This unit offers higher accuracy and better uniformity across various thermocouple types. This device measures/stores over 16,800 temperature readings and allows up to 4 thermocouple connections that plug into a miniature female thermocouple receptacle at the base of the unit.

The user can easily set up the initial data logging parameters including thermocouple type, logging Intervals, high/low alarm settings, and desired temperature units (°C, °F or °K). The user may also download the stored data by plugging the meter straight into a PC's USB port and running the easy-to-use Windows software.

2. Accessories

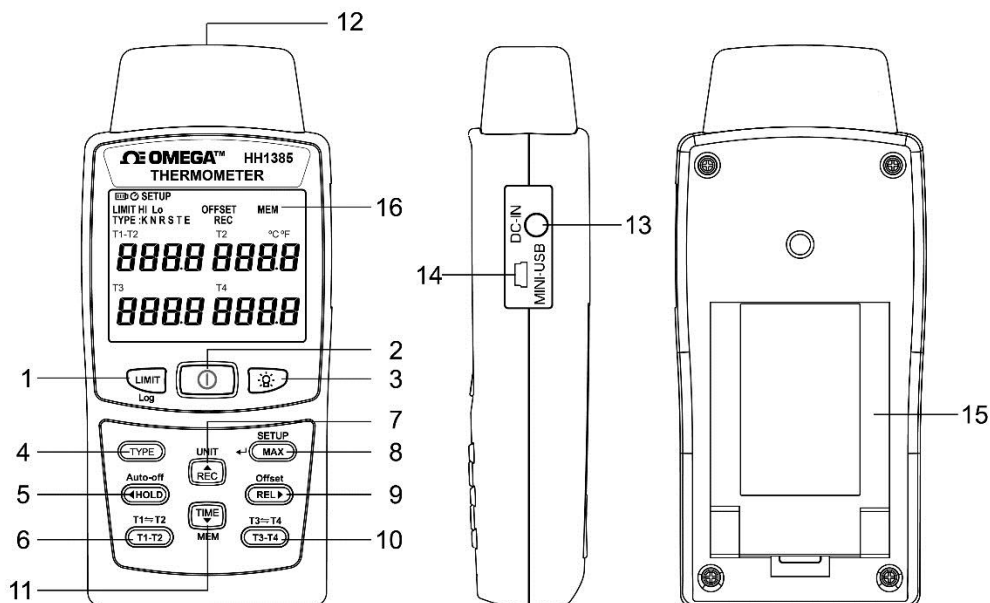
- 1 User manual
- 6 1.5V AAA Carbon zinc battery
- 1 Carrying bag
- 1 9V AC to DC adaptor
- 1 USB cable

3. Safety Precaution

	Note! Please refer to this manual. Improper use may damage the meter and its components.
	Complies with European Directive.



- Do not operate in environments with flammable gas or humid environments
- Operating altitude: up to 2000M
- Operating environment: Indoor use; Pollution degree 2
- Clean with soft cloth when dirty, such as glasses cloth
- Do not clean with chemicals and other solvents
- **Class B** – Equipment for use in all establishments other than domestic
- **Group 1** – RF energy generated is needed for the internal functioning

4. Meter Description




1. Alarm setup button / Auto record button
2. Power button
3. Backlight button
4. K / J / T / E / R / S / N type switching/manually record button.
5. Hold button / Auto-shutdown button
6. Interchange button for "T1 - T2" vs. "T1 & T2"
7. Unit ° C / ° F / K switch button
8. Maximum value, Minimum value, Average value, elapsed time / Setup button
9. Relative value / offset value button
10. Interchange button for "T3 - T4" vs. "T3 & T4"
11. Time button / Read button
12. Thermocouple input terminal T1/T2 T3/T4
13. External power DC 9V input
14. USB data output jack
15. Battery cover and tilt stand
16. LCD display




- With DC-IN connected,  appears on the screen.
- Without heat-sensing wire connected,  will appear on the screen.

5. Operation

Power on or off


Press  button, turn on or turn off.

Turn on backlight

Press  button to turn on or turn off the backlight.

* The backlight will automatically turn off after being lit for 15 seconds.


Alarm on or off

Press  to turn "on" or "off" the alarm, followed by "LIMIT" appears on the LCD.

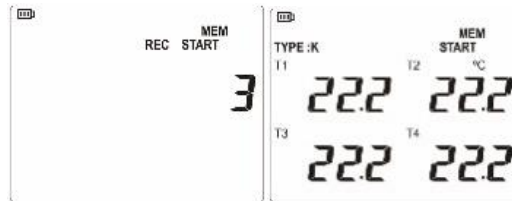
This LCD shows the status "on" or "off" of the alarm function. It is possible to set the upper and lower limit of the temperature range by yourself. When the temperature reading exceeds the range, the buzzer will alarm until the temperature back to the range or the alarm function turned off.

(For the limit range setup, please enter Setup Function)

Auto Recording

Press  and hold for ≥ 2 seconds to enable or disable the auto-recording function "LOG"


The LCD display will first show the number of logs for REC/MEM START mode and then switch back to temperature mode after 1 second.



The auto-recording is such if the current number is 3, it will be increased to X by 1 at each pressing. (the number of logs in HH1385 is up to 16800)


* Execute "LOG" to disable the auto-shutdown function. For recording for a long time, please connect the meter to an external power supply.

Thermocouple Type Selection (TYPE):

Press  to enable selection of different thermocouple types in a full cycle.




Manual Record

Press , followed by "REC" appears on the LCD, the log number of records will increase by +1 at each time, and one log will be recorded.

The manual records are up to 200 logs.




Unit Switch for ° C, ° F and ° K

Press  and hold for ≥ 2 seconds to switch the unit: Celsius (°C), Fahrenheit (°F), or Kelvin (°K).

Data Hold


Press  to enable or disable the data hold function.


Disable Auto Power Off Function

Press  and hold for 2 seconds to enable or disable the auto power off function.

Relative Value Measurement



Press  to enter the relative:

Just use one thermocouple, the difference between the two temperatures can be measured. For example, measure the first temperature as 25°C, and then press  to show 0°C on the LCD. Again, measure the second temperature. If the second temperature is measured as 30°C, the LCD will show the difference value 5°C (30-25=5°C).

Again, press  to disable the function.






The left shows the relative value, right shows the temperature value being measured.

Press the / and hold to switch the display between "T1 & T2" and "T3 & T4".



Offset Value


The user can set the offset value to compensate for the error due to the working thermocouple wire.

Press  and hold for ≥ 2 seconds to set the offset value in OFFSET mode.

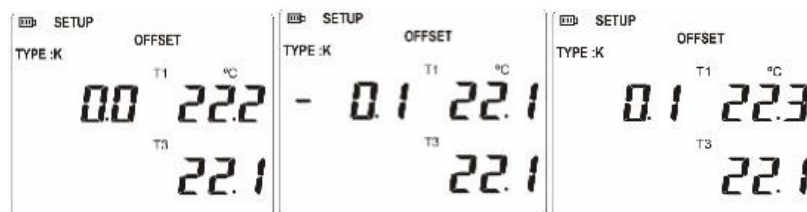
Press  or  to increase or decrease the offset value by the scale of 0.1°C, °F, or °K.

The setting range is $\pm 5^\circ\text{C}$, $\pm 5\text{K}$, or $\pm 9^\circ\text{F}$.

*If to set offset value of another channels, press  and  to switch and select between "T1 & T2" and "T3 & T4" for adjustment.

Press  to save the setting value and exit the setting mode.

*If the value updated to be 0.1, "OFFSET" will continuously appear on the LCD. "OFFSET" will not disappear unless it is corrected back to 0.0.



Change Display of T1-T2 vs. T1 & T2

Press T1-T2 to enable or disable T1 – T2 .

The value shown on the left shows the difference of T1 – T2, and the one shown on the right is the T1 value which is measured presently.



Press and hold T1-T2 for ≥ 2 seconds for the position change of T1 and T2.

Change Display of T3-T4 vs. T3 & T4

Press T3-T4 to show the value of T3 - T4.

Again, press T3-T4 to disable the function.

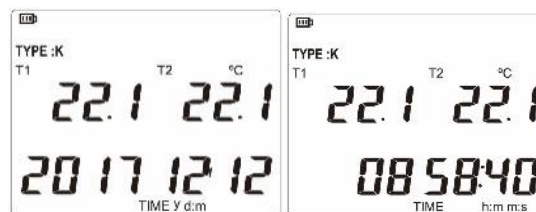
The value shown on the left presents the difference of T3-T4, the one shown on the right is the temperature measured through T3 channel.



Press and hold T3-T4 for 2 seconds for the position change of T4 and T3 on the right.

Time Display

Press TIME for < 1 second to switch the three date-time modes: Year/Month/Day \rightarrow Hour/Minute/Second \rightarrow Cyclic displays each term by second.



Read Record

Press TIME and hold for ≥ 2 seconds to read the records in "MEM" mode while LCD displays MEM CALL.

Press REC or TIME to read the previous or next record.

The three items of time, number of logs and temperature data are displayed on the LCD and are auto-displayed cyclic by second.



It is used in the "MEM CALL" mode. Press **MAX** to exit this mode.

Maximum /Minimum/ Average Value

Press **MAX** repeatedly to select maximum, minimum and average value of measured data.

When MAX, MIN, and AVG are displayed at the same time, it represents the elapsed time of the measurement, and the present temperature T1 / T3.



Setup

Press **← [MAX] SETUP** and hold for ≥ 2 seconds for SETUP

Step1. High/Low limit Value setting for alarm function (Limit)

Select Setup mode to the upper and lower limit of T1, T2, T3 and T4 (Setup Limit Hi & Lo).

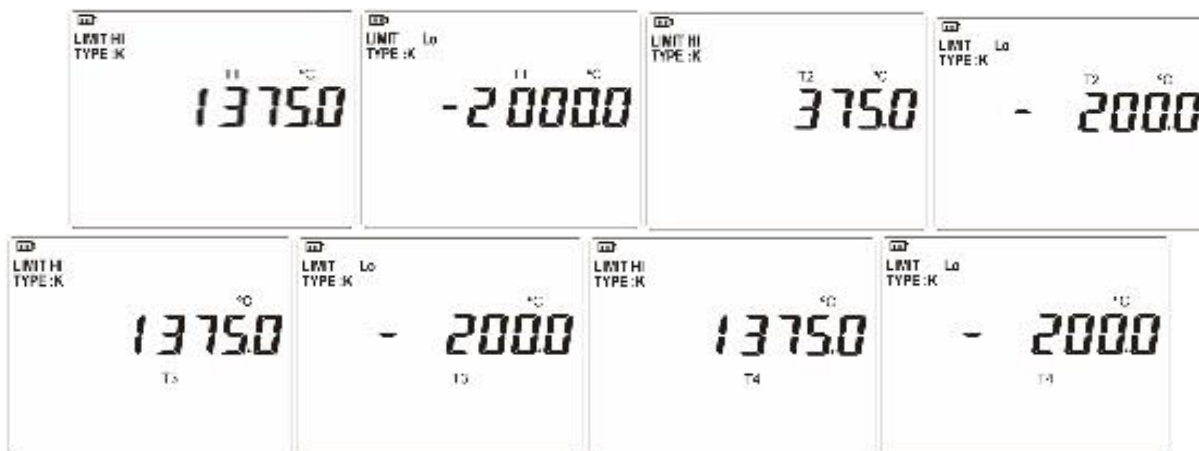
Press **[HOLD]** to select and set the range (Hi & Lo) of T1, T2, T3, T4.

Press **[REL]** to select the position to be modified. The position will be indicated to the next one by each press.

Press **[REC]** or **[TIME]** to set the plus-minus sign and temperature.

The setting of the upper and the lower limits are based on the TYPE range measured; it may auto-identify whether it exceeds the limit. (The Setup function will fail if it exceeds the TYPE range which is set by the user.)

Press **← [MAX] SETUP** to save the settings and proceed to Step 2.



Step2. Set Record Intervals

Press **◀HOLD** or **REL▶** to select the hour, minute, and second.

Press **▲REC** or **TIME▼** to adjust the record interval.



Press **◀SETUP** **MAX** to save the settings and proceed to Step 3.

Step3. Time Setting

Press **◀HOLD** or **REL▶** to select the year, month, day, hour, minute, and second.

Press **▲REC** or **TIME▼** adjust the time.


Press and hold the button to enable speedy adjustment.




Press **◀SETUP** **MAX** to save the settings and proceed to Step 4.

Step4. Clear the record in the memory

Press **◀HOLD** to clear, "YES" will flash.

Press  to keep, "NO" will flash.

Press  to save the settings and complete all settings.

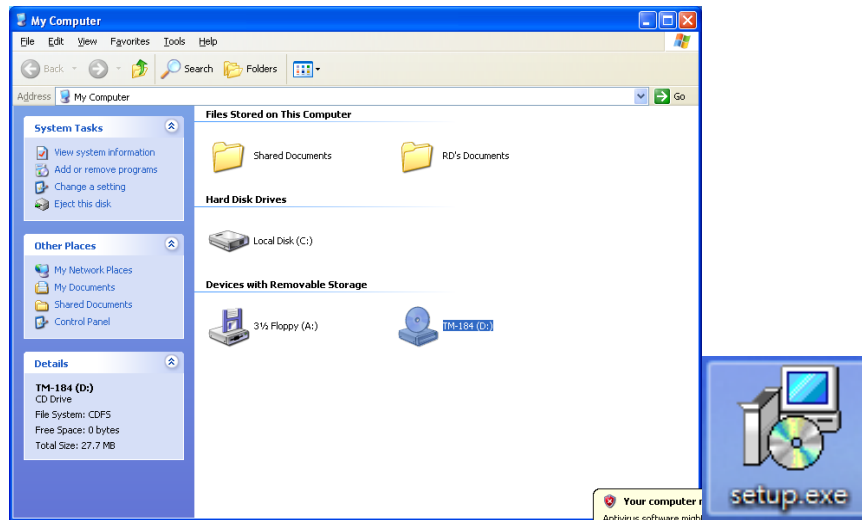


6. Software Installation

Supported operating systems: XP/Windows7/Windows 8.1/Windows10

Install the desktop thermometer program (Please close virus scanning software when Executing.)

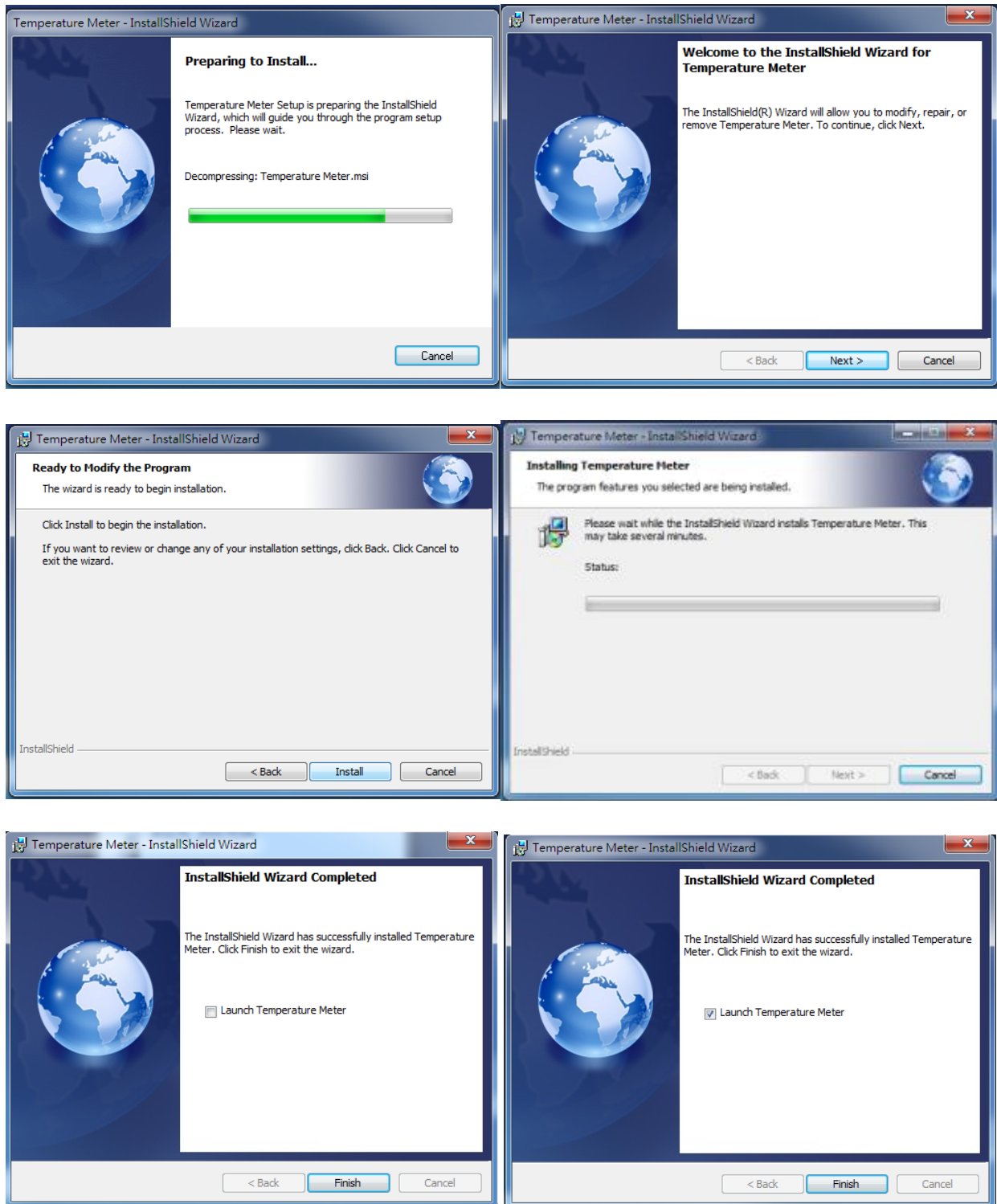
Place the CD into the CD/DVD-ROM player



Install the Temperature Meter T1 software



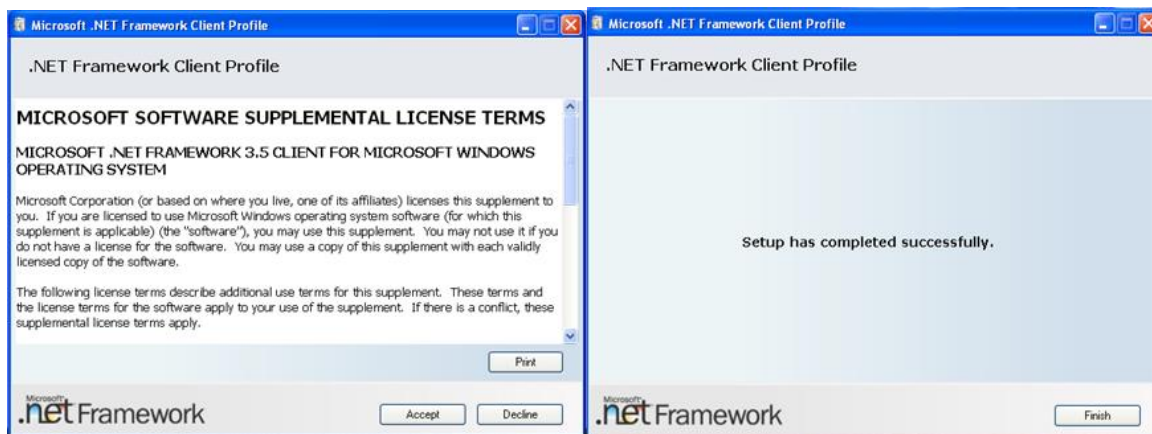
This will install Temperature Meter T1 Version 1.0.08 on your computer. It is recommended that you close all other applications before continuing. Click next to continue, or Cancel to exit Setup



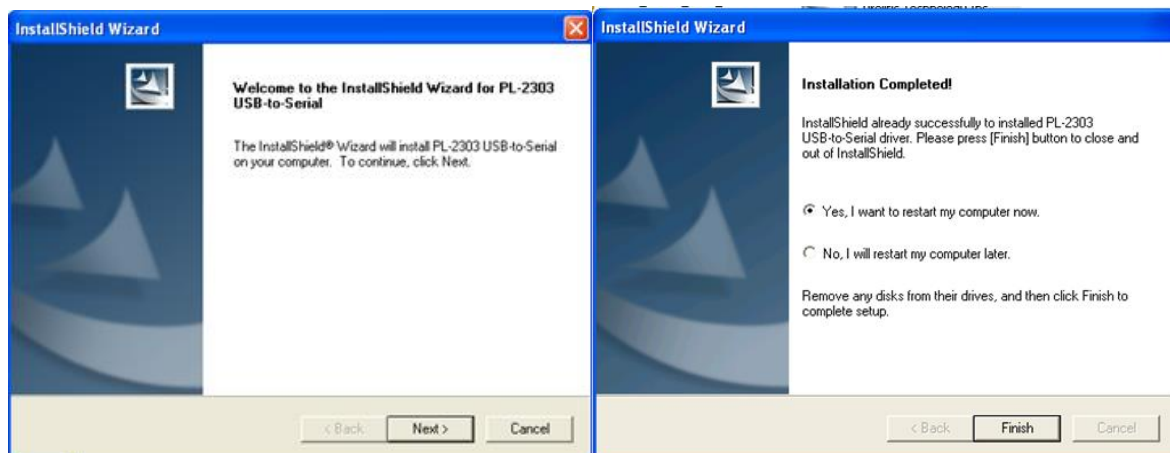


Finish Install and run Temperature Metert11.0.08 desktop software.
(HH1385 is not connected to the PC)

Install Microsoft NET Framework Client Profile



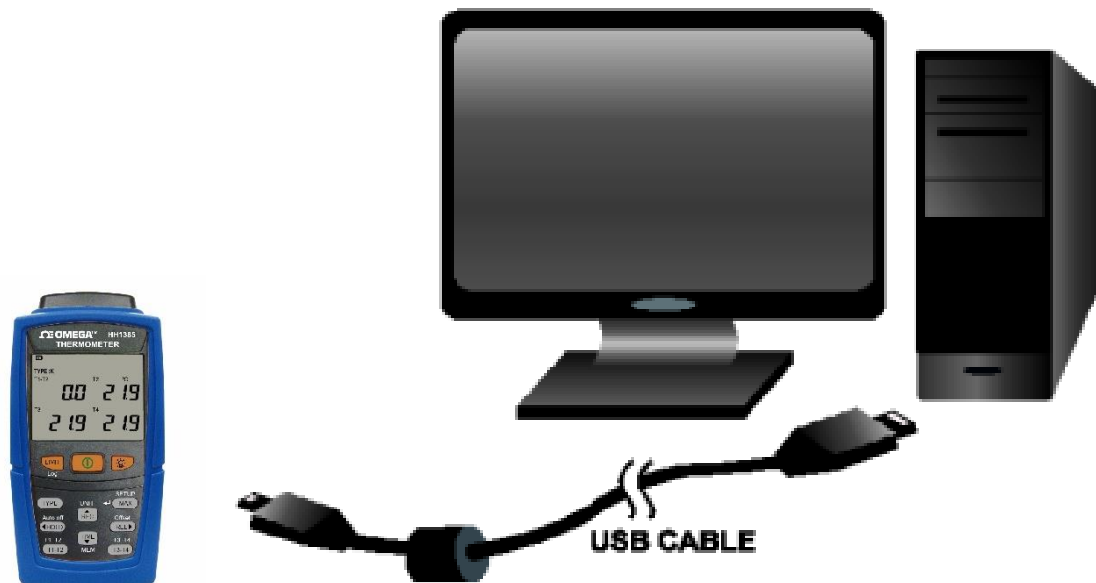
Install Shield Wizard of PL2303



The Install Shield Wizard will install PL-2303 USB-to-Serial on your computer.

7. Software manual

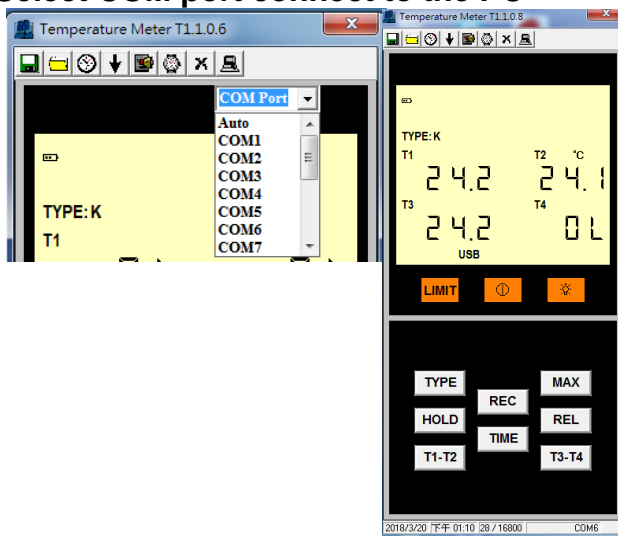
Connect the USB cable included with a meter to the PC, as shown in the figure below.



Double click “Run Temperature Meter T1110” icon on the desktop



Select COM port connect to the PC



“USB”: PC is connected to a meter

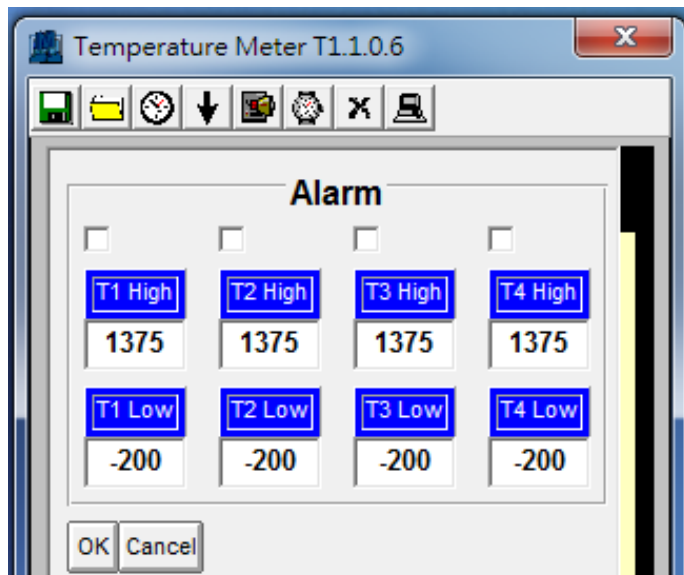


“OL”: No Thermocouple connected

2019/11/27	01:07	894 / 16800	COM5
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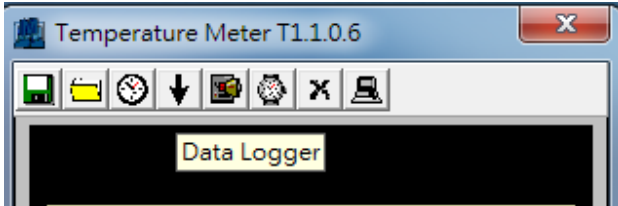
Year / Month / day 2019/11/27 Hour: Minute 01:07
 Number of records / Total number of records 894/16800
 Connection port COM5 (random change)

Select the “Start to record measured data Alarm function T1 / T2/T3/T4 Upper / lower limit setting (Alarm)



Download Temperature Meter data from the meter's memory

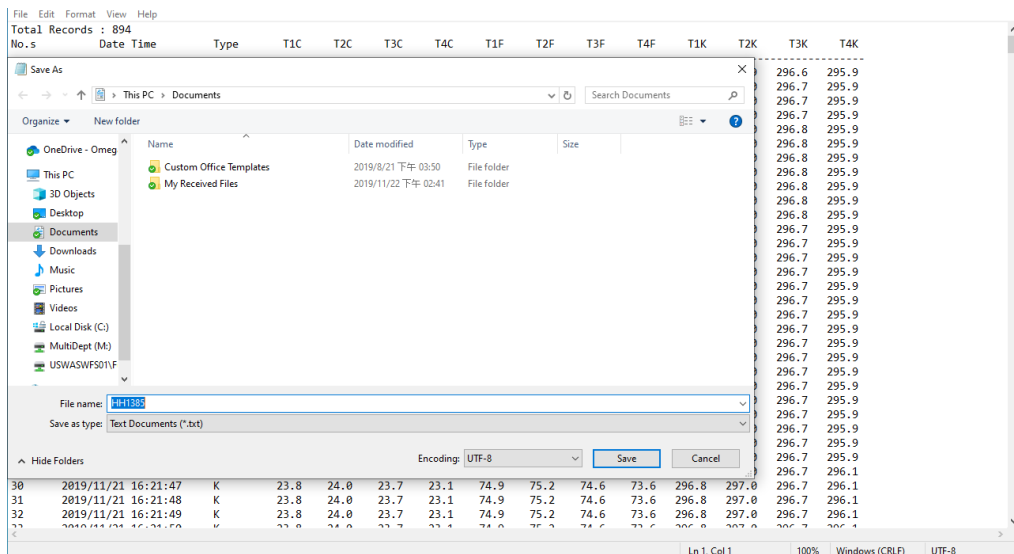
Select the “Download recorded measurement record from / Temperature Meter”



Save the record after the completion of the download

File Edit Format View Help																
Total Records : 894																
No.s	Date Time	Type	T1C	T2C	T3C	T4C	T1F	T2F	T3F	T4F	T1K	T2K	T3K	T4K		
1	2019/11/21 16:21:18	K	24.1	23.9	23.6	22.9	75.4	75.1	74.5	73.2	297.1	296.9	296.6	295.9		
2	2019/11/21 16:21:19	K	24.2	24.0	23.7	22.9	75.5	75.2	74.6	73.3	297.2	297.0	296.7	295.9		
3	2019/11/21 16:21:20	K	24.2	24.0	23.7	22.9	75.5	75.2	74.6	73.3	297.2	297.0	296.7	295.9		
4	2019/11/21 16:21:21	K	24.2	24.0	23.7	22.9	75.5	75.2	74.6	73.3	297.2	297.0	296.7	295.9		
5	2019/11/21 16:21:22	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
6	2019/11/21 16:21:23	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
7	2019/11/21 16:21:24	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
8	2019/11/21 16:21:25	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
9	2019/11/21 16:21:26	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
10	2019/11/21 16:21:27	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
11	2019/11/21 16:21:28	K	24.1	24.0	23.8	22.9	75.3	75.2	74.8	73.3	297.1	297.0	296.8	295.9		
12	2019/11/21 16:21:29	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
13	2019/11/21 16:21:30	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
14	2019/11/21 16:21:31	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
15	2019/11/21 16:21:32	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
16	2019/11/21 16:21:33	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
17	2019/11/21 16:21:34	K	24.1	24.0	23.7	22.9	75.3	75.2	74.6	73.3	297.1	297.0	296.7	295.9		
18	2019/11/21 16:21:35	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
19	2019/11/21 16:21:36	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
20	2019/11/21 16:21:37	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
21	2019/11/21 16:21:38	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
22	2019/11/21 16:21:39	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
23	2019/11/21 16:21:40	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
24	2019/11/21 16:21:41	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
25	2019/11/21 16:21:42	K	23.9	24.0	23.7	22.9	75.1	75.2	74.6	73.3	296.9	297.0	296.7	295.9		
26	2019/11/21 16:21:43	K	23.8	24.0	23.7	22.9	74.9	75.2	74.6	73.3	296.8	297.0	296.7	295.9		
27	2019/11/21 16:21:44	K	23.8	24.0	23.7	22.9	74.9	75.2	74.6	73.3	296.8	297.0	296.7	295.9		
28	2019/11/21 16:21:45	K	23.8	24.0	23.7	22.9	74.9	75.2	74.6	73.3	296.8	297.0	296.7	295.9		
29	2019/11/21 16:21:46	K	23.8	24.0	23.7	23.1	74.9	75.2	74.6	73.6	296.8	297.0	296.7	296.1		
30	2019/11/21 16:21:47	K	23.8	24.0	23.7	23.1	74.9	75.2	74.6	73.6	296.8	297.0	296.7	296.1		
31	2019/11/21 16:21:48	K	23.8	24.0	23.7	23.1	74.9	75.2	74.6	73.6	296.8	297.0	296.7	296.1		
32	2019/11/21 16:21:49	K	23.8	24.0	23.7	23.1	74.9	75.2	74.6	73.6	296.8	297.0	296.7	296.1		
33	2019/11/21 16:21:50	K	23.8	24.0	23.7	23.1	74.9	75.2	74.6	73.6	296.8	297.0	296.7	296.1		
Ln 1, Col 1											100%		Windows (CLRF)		UTF-8	

Save a new file (*.txt)



Top 5 highest data of T1 T2 T3 T4

File Edit Format View Help

```
Top 5 Max T1 Celsius Value :
2019/11/21 16:21:21****24.2
2019/11/21 16:21:20****24.2
2019/11/21 16:21:19****24.2
2019/11/21 16:21:34****24.1
2019/11/21 16:21:33****24.1
Top 5 Max T2 Celsius Value :
2019/11/21 16:36:11****24.1
2019/11/21 16:36:10****24.1
2019/11/21 16:36:09****24.1
2019/11/21 16:36:08****24.1
2019/11/21 16:36:07****24.1
Top 5 Max T3 Celsius Value :
2019/11/21 16:36:06****23.9
2019/11/21 16:36:05****23.9
2019/11/21 16:36:04****23.9
2019/11/21 16:36:03****23.9
2019/11/21 16:36:02****23.9
Top 5 Max T4 Celsius Value :
2019/11/21 16:32:58****23.7
2019/11/21 16:32:57****23.7
2019/11/21 16:32:56****23.7
2019/11/21 16:32:55****23.7
2019/11/21 16:32:54****23.7
```

Top 5 lowest data of T1 T2 T3 T4

```
Top 5 Min T1 Celsius Value :
2019/11/21 16:27:48****23.3
2019/11/21 16:27:47****23.3
2019/11/21 16:27:46****23.3
2019/11/21 16:27:45****23.3
2019/11/21 16:27:44****23.3
Top 5 Min T2 Celsius Value :
2019/11/21 16:35:30****23.9
2019/11/21 16:35:29****23.9
2019/11/21 16:35:28****23.9
2019/11/21 16:35:27****23.9
2019/11/21 16:35:26****23.9
Top 5 Min T3 Celsius Value :
2019/11/21 16:27:58****23.2
2019/11/21 16:27:57****23.2
2019/11/21 16:27:56****23.2
2019/11/21 16:27:55****23.2
2019/11/21 16:27:54****23.2
Top 5 Min T4 Celsius Value :
2019/11/21 16:23:36****22.9
2019/11/21 16:23:35****22.9
2019/11/21 16:23:34****22.9
2019/11/21 16:23:33****22.9
2019/11/21 16:23:32****22.9
```

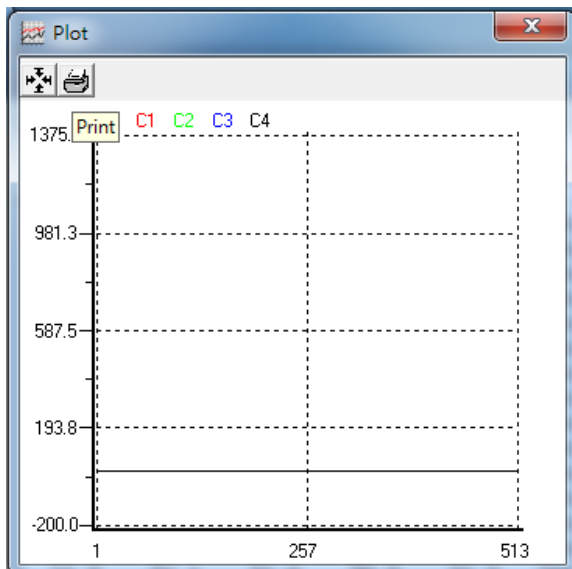
Ln 19, Col 113

100%

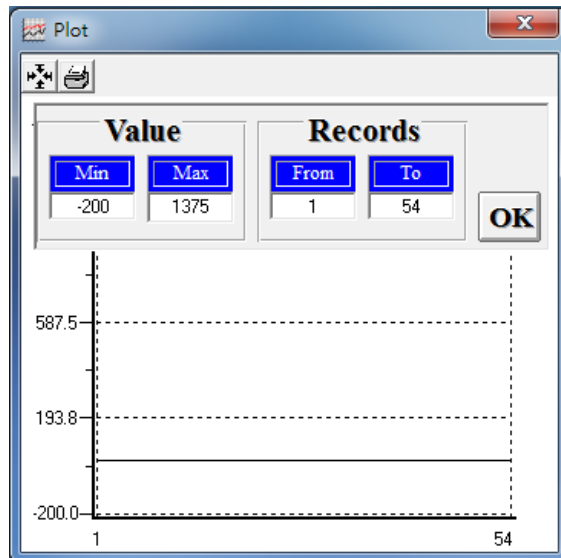
Windows (CRLF)

UTF-8

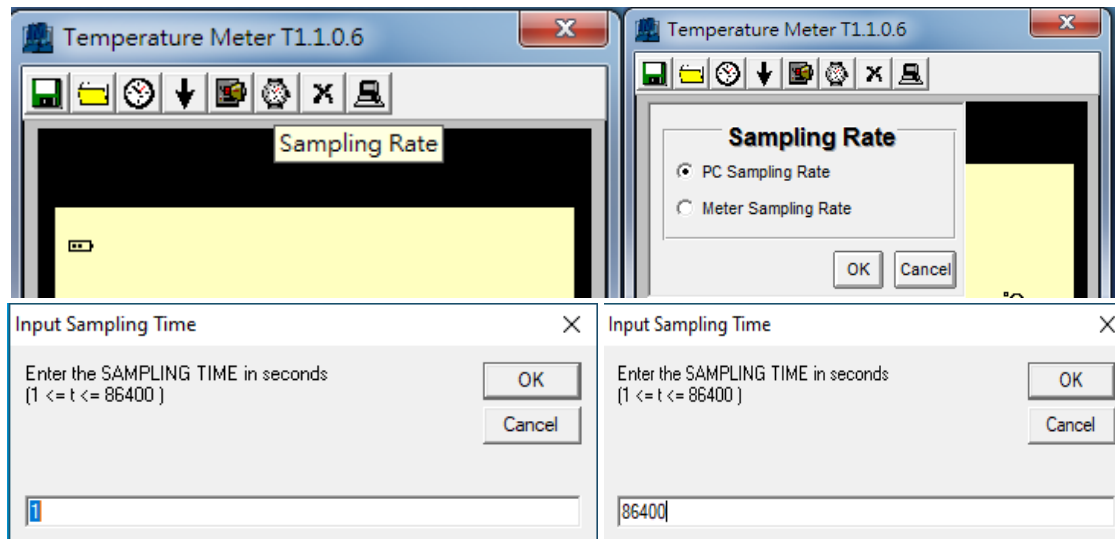
Print T1 T2 T3 T4 temperature Chart



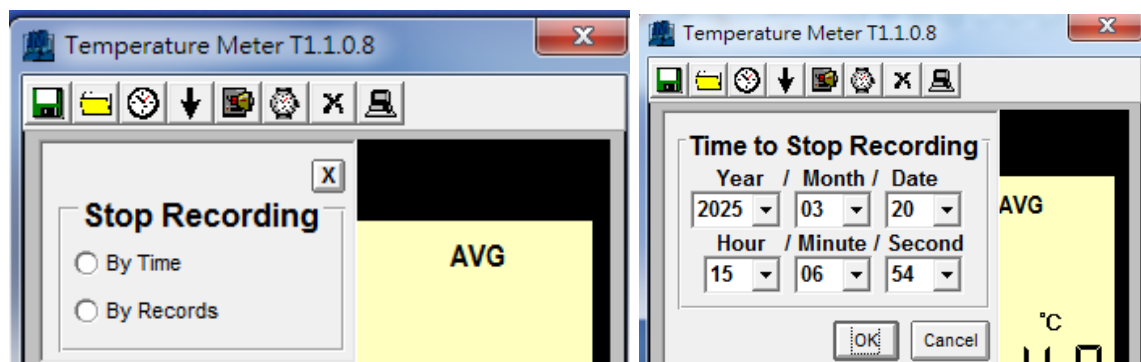
Change time and temperature range on the temperature chart




Change "record sampling time" (Min sample time 1 sec; Max sample time 86400sec)



Change "time to stop recording"



8. General specifications

- Display: 4-channel and 4-digit LCD
- Unit: °C / °F / °K
- Data hold (HOLD)
- Auto-ranging
- Backlight
- Auto power (default 15 min) and disable auto power off
- Maximum/minimum/mean value/measurement elapsed time
- Alarm function
- Overload display: "OL"
- Input limit: Maximum input 24V DC or AC
- Datalogging capacity 16,800 records
- Save interval: 1 second~24 hour
- Low battery detection 
- Battery: 1.5V×6 (LR03 SIZE AAA 1.5V)
- Battery life: Approximately 100 hours
- Operation temperature and humidity: 0°C to 50°C (32°F to 122°F), < 80%RH
- Storage temperature and humidity: 0°C to 50°C, relative humidity under 80%.
- Weight: Approximately 330 grams
- Dimensions: 168 (L) x 73 (W) x 35 (H) mm
- The backlight will be continuously on if the meter is connected to the external power supply

- **AC to DC Adaptor**

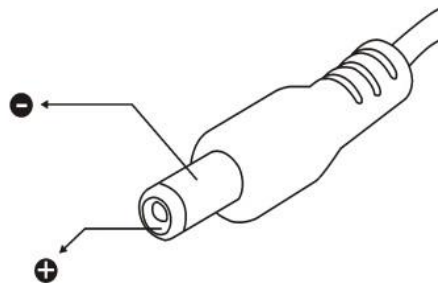
External AC 100~240V to DC 9V/0.5A adaptor. (Please pay attention to the polarity)

Voltage: DC9V (9.0 ~ 15.0 VDC MAX)

Current: $\geq 1000\text{mA}$ °

Plug: The pin in the center connects to the positive electrode and the outer case is a negative electrode

Diameter: 5.5mm; internal diameter: 2.1mm.




9. Electrical specifications

Range	K	-200°C to +1372°C (-328°F to +2501°F)
	J	-210°C to +1200°C (-346°F to +2192°F)
	T	-250°C to +400°C (-418°F to +752°F)
	E	-210°C to +1000°C (-346°F to +1832°F)
	R / S	0°C to +1767°C (+32°F to +3212°F)
	N	-150°C to +1300°C (-238°F to +2372°F)
Resolution	0.1	K / J / T / E / N / R / S ≤1000°C
	1	R / S and K / J / E / N ≥1000°C
Accuracy	K/J/E/T/N type : $\pm(0.05\% \text{ rdg} + 0.7^{\circ}\text{C}/1^{\circ}\text{F})$ Below -100°C(-148°F): K,J,T,E: + 0.15% reading N: + 0.45% reading	
	R/S Type: $\pm(0.05\% \text{ rdg} + 3^{\circ}\text{C}/5.4^{\circ}\text{F})$	
Temperature coefficient	0.05% of reading $\pm 0.07^{\circ}\text{C}$ per $^{\circ}\text{C}$ outside the specified 18 to 28°C	
Temperature scale	ITS-90	
Operation Temperature and Humidity	0°C to 50°C (32°F to 122°F), < 80%RH	
Storage Temperature and Humidity	0°C to 50°C, relative humidity under 80%	

Accuracy is specified for ambient temperatures between 18 to 28°C (64 to 82°F).

10. Maintenance or repair

When the  symbol is displayed on the LCD, it means that there is insufficient power; please change the battery immediately in order to ensure its accuracy.

Do not place the meter in locations that have a high temperature, humidity or that are exposed to direct sunlight.

Remember to turn off the power after usage; remove the battery if not used for a long period of time in order to prevent battery leakage and causing damages to internal components.

When the instrument failure, only by the authorized service provider or return the original repair.

11. Battery replacement

Turn off the power.

Open the frame and battery cover at the back of the meter, remove the batteries.

Please insert a new AAA battery according to the polarities.

Put the battery cover and frame back in place.

12. End of life disposal



Note: This symbol indicates that the meter and its accessories must be separated and processed properly.



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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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