DL-100T485 User Manual

Warranty

All products manufactured by ICP DAS are under warranty regarding defective materials for a period of one year from the date of delivery to the original purchaser.

Warning

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Introduction

The DL-100T485 is a one-channel temperature and humidity data logger module. It contains a single built-in RS-485 communication interface and an LCD indicator to display the module ID, temperature and humidity data, and allows you define the log time interval depending on your application.

The DL-100T485 supports the DCON protocol. Refer to Section 1 for more details.

We also provide software Utility that can be used to retrieve log data and display it in a chart on your desktop, and also allow you save the log data into an Excel format file.

1 Hardware Information

1.1 Specifications

Humidity & Temperature Sensor	
Humidity Range	0 ~ 100％ RH (Relative Humidity)
Humidity Resolution	0.1% RH
Humidity Accuracy	Typical: ±3% RH
	Max.: Refer to Figure 1
Humidity Repeatability	±0.1％ RH
Temperature Range	-20 ~ +60℃
Temperature Resolution	0.1℃
Temperature Accuracy	Typical: ±0.4℃
	Max.: refer to Figure 2.
Data Logging	
Data Storage Capacity	4092 Readings (16000 bytes Memory)
Sampling Frequency	10 seconds to 24 Hours
Recording Mode	Stop on memory full or continuous recording with memory rollover
Temperature Repeatability	±0.1℃
LCD Display	
LCD Duty	1/4
LCD Bias	1/3
LCD Operating Voltage	3.0 V
LCD Operating Frequency	64 Hz
Power	
Protection	Power reverse polarity protection
Required Supply Voltage	+10 ~ +30 VDC
Power Consumption	≤ 0.15 W @ 24 VDC
Mechanical	
Dimensions (W x L x H)	86 mm x 128 mm x 52 mm
Environment	
Operating Temperature	-20 ~ +60℃
Storage Temperature	-30 ~+80℃
Relative Humidity	5 ~ 95％ RH, Non-condensing
Communication	

Interface	RS-485
Baud Rate	9600 bps

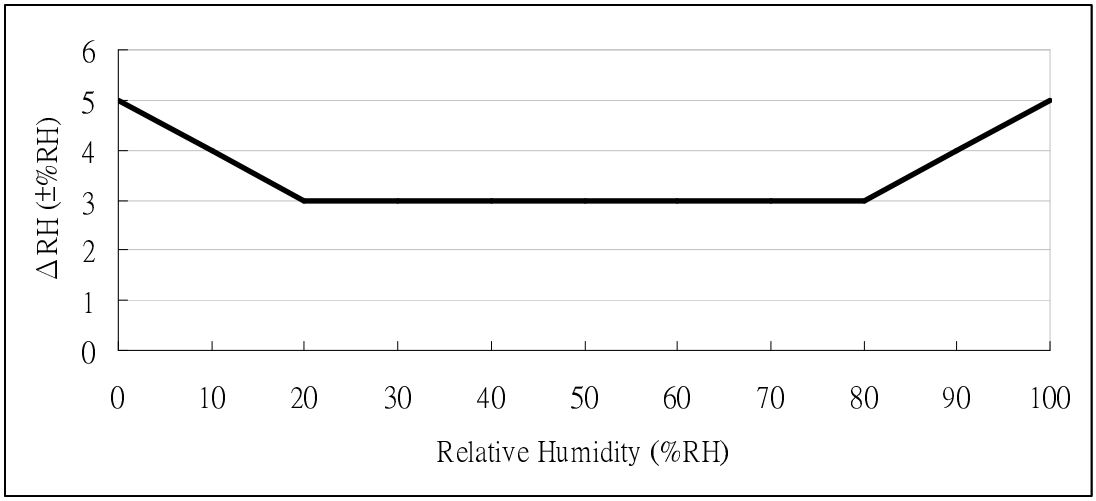


Figure 1: Maximum RH-tolerance at 25℃ per sensor.

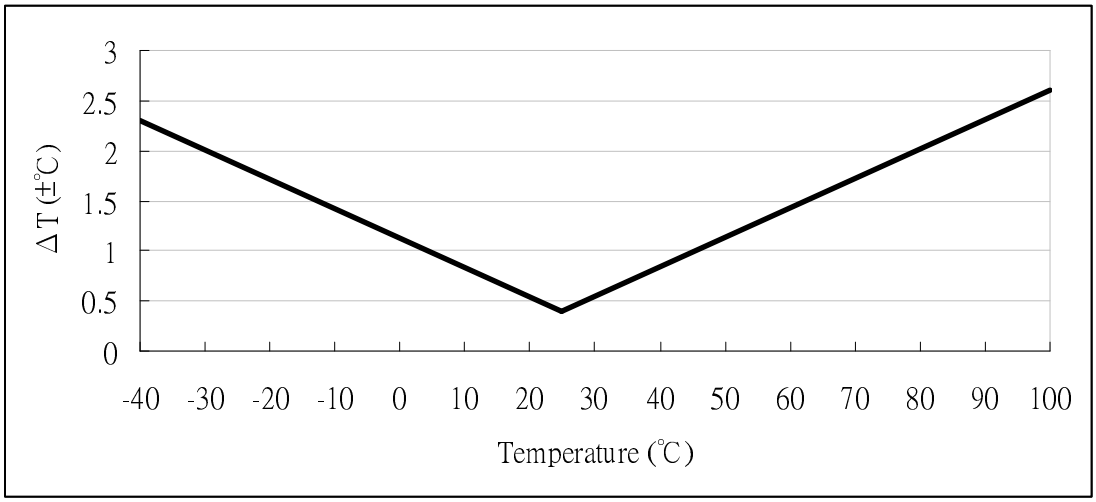
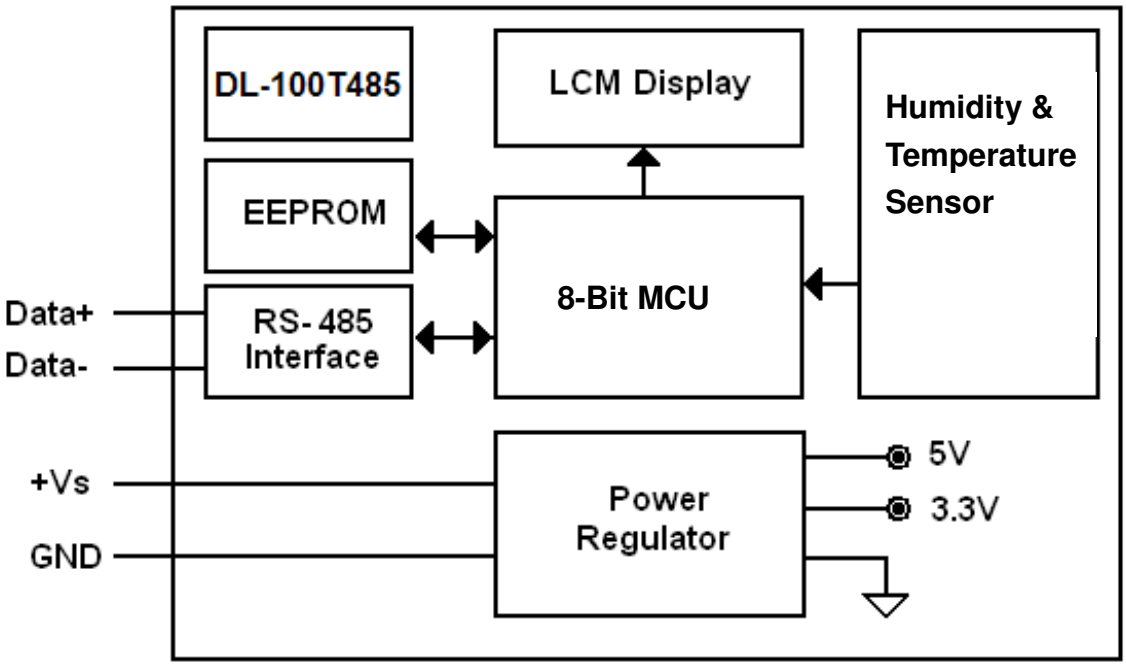
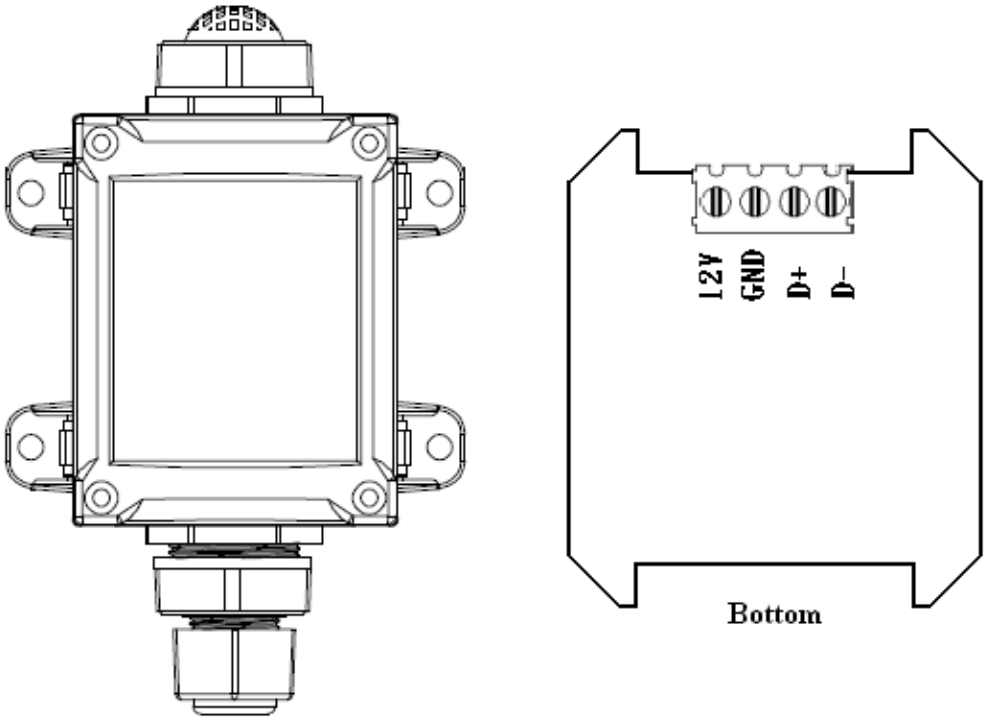


Figure 2: Maximum T-tolerance per sensor.

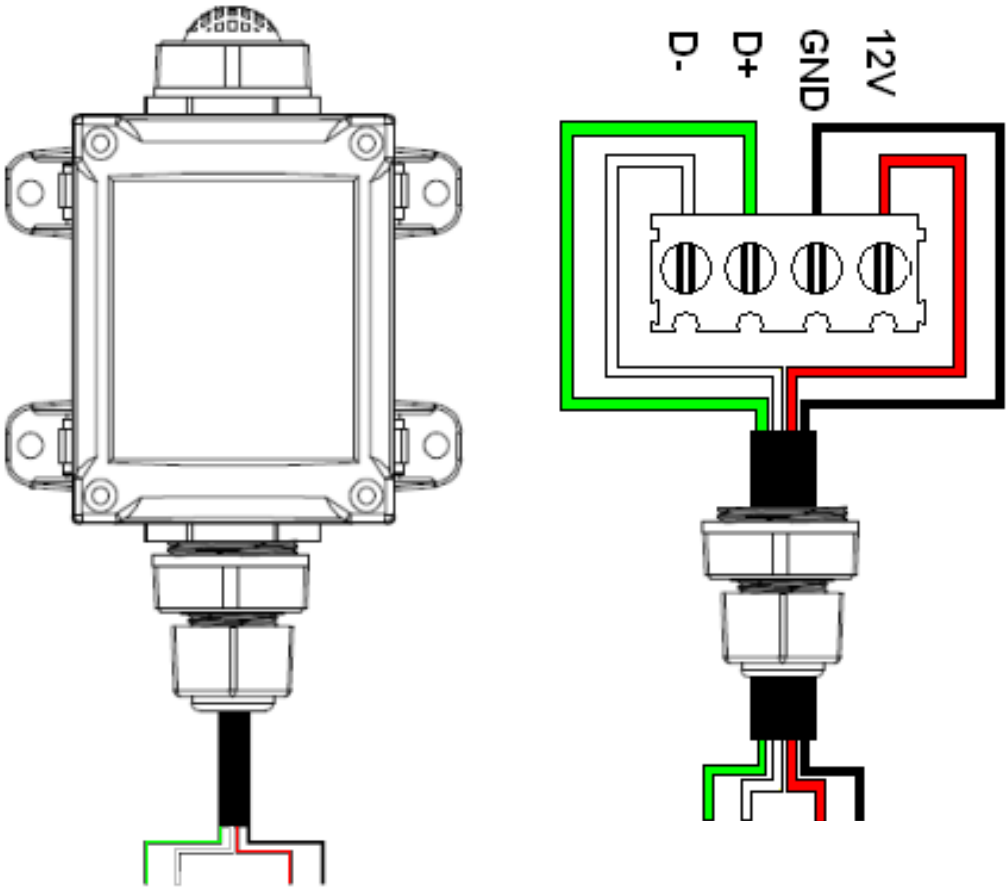
1.2 Function Block



1.3 Pin Assignments



1.4 Wire Connections



2 DCON Protocol

All communication with DL-100T485 modules consists of commands generated by the host and responses transmitted by the DL-100T485 modules themselves. Each module has a unique ID number that is used for addressing purposes and is stored in non-volatile memory. The ID is 01 by default and can be changed using a user command. All commands to the module contain an ID address, meaning that only the addressed module will respond.

Command Format:

Leading Character	Module Address	Command	[CHKSUM]	CR

Response Format:

Leading Character	Module Address	Data	[CHKSUM]	CR

CHKSUM 2-character checksum is present when the checksum setting is enabled. See Sections 1.1 (Data Format Settings) for details.

CR End of command character, carriage return (0x0D)

Checksum Calculation:

1. Calculate the ASCII code sum of all the characters in the command/response string, except for the carriage return character (CR).
2. The checksum is equal to the sum masked by 0FFh.

Example:

Command string: $012(CR)

1. Sum of the string = “$”+”0”+”1”+”2” = 24h+30h+31h+32h = B7h
2. Therefore the checksum is B7h, and so CHKSUM = “B7”
3. The command string with the checksum = $012B7(CR)

Response string: !01200600(CR)

1. Sum of the string = “!”+”0”+”1”+”2”+”0”+”0”+”6”+”0”+”0” = 21h+30h+31h+32h+30h+30h+36h+30h+30h = 1AAh
2. Therefore the checksum is AAh, and so CHKSUM = “AA”
3. The response string with the checksum = !01200600AA(CR)

Note:

All characters should be in upper case.

General Command Sets			
Command	**Response**	**Description**	**Section**
%AANNTTCCFF	!AA	Sets the Module Configuration	1.1
$AA2	!AANNTTCCFF	Reads the Module Configuration	1.2
$AA5	!AAS	Reads the Reset Status	1.3
$AAC	!AA	Resets the value of the log records counter to 0.	1.4
$AAF	!AA(Data)	Reads the firmware version	1.5
$AAL	!AA(Data)	Reads the number of records	1.6
$AAM	!AA(Data)	Reads the Module Name	1.7
@AAL	!AAVV	Reads the LCD indicator status	1.8
@AALNN	!AA	Sets the LCD indicator status	1.9
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@AAMN	!AA	Sets the logging mode value	1.11
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#AAC0TC	>(Data)	Reads the temperature value in degrees Celsius	1.16
#AAC0TF	>(Data)	Reads the temperature value in degrees Fahrenheit	1.17
#AAC0H	>(Data)	Reads the humidity value	1.18
#AAC0L	(Data)	Reads the contents of the logging records	1.19

2.1 %AANNTTCCFF

Description:

This command is used to sets the configuration of the module.

Syntax:

%AANNTTCCFF[CHKSUM](CR)

%	Delimiter character
AA	The address of the module to be configured in hexadecimal format (00 to FF)
NN	The new address of the module in hexadecimal format (00 to FF)
TT	00 (Fixed)
CC	06 (Fixed)
FF	Used to set the checksum 40: Enables the checksum function 00: Disables the checksum function

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

!	Delimiter for a valid command
?	Delimiter for an invalid command

AA

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: %0101000640

Response: !01

Enables the checksum function.

Command: %0102000600

Response: !02

Sets the module address from 1 to 2 and disables the checksum function.

Related Commands:

Section 2.2 $AA2

2.2 $AA2

Description:

This command is used to read the module configuration of the module.

Syntax:

$AAN [CHKSUM](CR)

$	Delimiter character
AA	The address of the module to be set (00 to FF)
2	The command to read the module configuration

Response:

Valid Command: **!AA0006FF[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

!	Delimiter for a valid command
?	Delimiter for an invalid command
AA	The address of the responding module (00 to FF)
00	Reserved data
06	The Baud Rate code of the module, should be 06

FF The Checksum settings of the module
40: Enables the checksum function
00: Disables the checksum function

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Example:

Command: $012

Response: !01000600

Reads the configuration of function 01.

Related Commands:

Section 2.1 %AANNTTCCFF

2.3 $AA5

Description:

This command is used to read the reset status of a module.

Syntax:

$AA5 [CHKSUM](CR)

$ Delimiter character

AA The address of the module to be set (00 to FF)

5 The command to read the module reset status of the module

Response:

Valid Command: **!AAS[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command.

? Delimiter for an invalid command.

AA The address of the responding module (00 to FF)

S The reset status of the module

1: This is the first time the command has been sent since the module was powered on.

0: This is not the first time the command has been sent since the module was powered on, which denotes that there has been no module reset since the last time a $AA5 command was sent

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: $015

Response: !011

Reads the reset status of module 01. The response shows that it is the first time the $AA5 command has been sent since the module was powered-on.

Command: $015

Response: !010

Reads the reset status of module 01. The response shows that there has been no module reset since the last time a $AA5 command was sent.

2.4 $AAC

Description:

This command is used to reset the value of the log records counter to 0.

Syntax:

$AAL [CHKSUM](CR)

$ Delimiter character

AA The address of the module to be set (00 to FF)

C The command to reset the value of the log records counter to 0

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command

? Delimiter for an invalid command

AA The address of the responding module (00 to FF)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: $01L

Response: !01000A

Reads the number of log records of module 01 and returns the 000A which denotes that there are 10 log records stored in the module's EEPROM

Command: $01C

Response: !01

Resets the value of the log records counter to 0

Command:$01L

Response:!010000

Reads the number of log records of module 01 and returns 0000.

Related Commands:

Section 2.8 $AAL, Section 2.19 #AAC0L

2.5 $AAF

Description:

This command is used to read the firmware version of a module.

Syntax:

$AAF [CHKSUM](CR)

$	Delimiter character
AA	The address of the module to be set (00 to FF)
F	The command to read the firmware version

Response:

Valid Command: **!AA(Data)[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

!	Delimiter for a valid command.
?	Delimiter for an invalid command.
AA	The address of the responding module (00 to FF)
(Data)	The firmware version of the module as a string value

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: $01F

Response: !0102.00

Reads the firmware version of module 01, and shows that it is version 02.00.

2.6 $AAL

Description:

This command is used to read the number of log records.

Syntax:

$AAL [CHKSUM](CR)

$ Delimiter character

AA The address of the module to be set (00 to FF)

L The command to read the number of log records

Response:

Valid Command: **!AANNNN[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command.

? Delimiter for an invalid command.

AA The address of the responding module (00 to FF)

NNNN The number of log records in hexadecimal format

There will be no response if the command syntax is incorrect, there is a communication error, or

there is no module with the specified address.

Examples:

Command: $01L

Response: !01000A

Reads the number of log records of module 01 and returns 000A, which denotes that there are 10 log records stored in the module's EEPROM.

Related Commands:

Section 2.4 $AAC, Section 2.19 #AAC0L

2.7 $AAM

Description:

This command is used to read the name of a module.

Syntax:

$AAM [CHKSUM](CR)

$	Delimiter character
AA	The address of the module to be set (00 to FF)
M	The command to read the module name

Response:

Valid Command: **!AA(Data)[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

!	Delimiter for a valid command.
?	Delimiter for an invalid command.
AA	The address of the responding module (00 to FF)
(Data)	The name of the module as a string value

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: $02M

Response: !02DL100

Reads the module name of module 02 and returns the name “DL100”.

2.8 @AAL

Description:

This command is used to read the LCD indicator configuration value.

Syntax:

@AAL [CHKSUM](CR)

@ Delimiter character

AA The address of the module to be set (00 to FF)

L The command to read the LCD indicator configuration value.

Response:

Valid Command: **!AANN[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command.

? Delimiter for an invalid command.

AA The address of the responding module (00 to FF)

NN The LCD indicator configuration value.

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: $02L

Response: !020F

Reads the LCD indicator configuration value of module 02 and returns the value 0F.

Related Commands:

Section 2.9 @AALNN

2.9 @AALNN

Description:

This command is used to set the LCD indicator configuration value.

Syntax:

@AALNN [CHKSUM](CR)

@	Delimiter character
AA	The address of the module to be set (00 to FF)
L	The command to set the LCD indicator configuration value
NN	The configuration value (00~0F)

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command
?	Delimiter for an invalid command
AA	The address of the responding module (00 to FF)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @02L0F

Response: !02

Sets the LCD indicator configuration value of module 02 to 0F.

Related Commands:

Section 2.8 @AAL

2.10 @AAM

Description:

This command is used to read the logging mode value for a module.

Syntax:

@AAM[CHKSUM](CR)

@ Delimiter character

AA The address of the module to be set (00 to FF)

M The command to read the logging mode value

Response:

Valid Command: **!AAN[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command.

? Delimiter for an invalid command.

AA The address of the responding module (00 to FF)

N The log mode value

0: The module will stop logging if the EEPROM memory is full.

1: The earliest stored data will be overwritten if the EEPROM memory is full.

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Example:

Command: @02M

Response: !020

Reads the logging mode value for module 02 and returns the value 0.

Related Commands:

Section 2.11 @AAMN

2.11 @AAMN

Description:

This command is used to set the logging mode value.

Syntax:

@AAMN(Name) [CHKSUM](CR)

@ Delimiter character

AA The address of the module to be set (00 to FF)

M The command to set the logging mode value

N The logging mode value
0: Module will stop logging if the EEPROM memory is full
1: The earliest stored data will be overwritten if the available EEPROM memory is full

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command

? Delimiter for an invalid command

AA The address of the responding module (00 to FF)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Example:

Command: @01M0

Response: !01

Sets the logging mode value for module 01 to 0.

Related Commands:

Section 2.10 @AAM

2.12 @AAR

Description:

This command is used to read the status of the logging function for a module.

Syntax:

@AAR [CHKSUM](CR)

@ Delimiter character

AA The address of the module to be set (00 to FF)

R The command to read the status of the logging function

Response:

Valid Command: **!AAV[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command

? Delimiter for an invalid command

AA The address of the responding module (00 to FF)

V A value to indicates the status of the logging function

0: The logging function is disabled

1: The logging function is enabled

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @02R

Response: !021

Reads the status of the logging function

Related Commands:

Section 2.13 @AARN

2.13 @AARN

Description:

This command is used to enable or disable the logging function for a module.

Syntax:

@AARN [CHKSUM](CR)

@	Delimiter character
AA	The address of the module to be set (00 to FF)
R	The command to enable or disable the logging function
N	The value to enable or disable the logging function 0: The logging function is disabled 1: The logging function is enabled

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

!	Delimiter for a valid command
?	Delimiter for an invalid command
AA	The address of the responding module (00 to FF)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @01R0

Response: !01

Disables the logging function for module 01.

Related Commands:

Section 2.12 @AAR

2.14 @AAT

Description:

This command is used to read the time interval value of the logging function for a module.

Syntax:

@AAT[CHKSUM](CR)

@ Delimiter character

AA The address of the module to be set (00 to FF)

T The command to read the time interval value of the logging function

Response:

Valid Command: **!AANN[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

! Delimiter for a valid command

? Delimiter for an invalid command

AA The address of the responding module (00 to FF)

NN The time interval value of the logging function
Refer to the following table for details

NN	Time	NN	Time

00	**10 seconds**	**06**	**30 minutes**
01	**20 seconds**	**07**	**1 hour**
02	**30 seconds**	**08**	**2 hours**
03	**1 minute**	**09**	**6 hours**
04	**5 minutes**	**0A**	**12 hours**
05	**10 minutes**	**0B**	**1 day**

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @02T

Response: !0205

Reads the logging time interval value for module 02 and returns a value of 05.

Related Commands:

Section 2.15 @AATNN

2.15 @AATNN

Description:

This command is used to set the time interval value of the logging function for a module.

Syntax:

@AATNN[CHKSUM](CR)

@	Delimiter character
AA	The address of the module to be set (00 to FF)
T	The command to set the time interval value of the logging function
NN	The time interval value (00~0B)

Response:

Valid Command: **!AA[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command
?	Delimiter for an invalid command
AA	The address of the responding module (00 to FF)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @02T01

Response: !02

Sets the time interval value of the logging function of module 02 to 01.

Related Commands:

Section 2.14 @AAT

2.16 #AAC0TC

Description:

This command is used to read the temperature value of a module in degrees Celsius (℃).

Syntax:

#AAC0TC [CHKSUM](CR)

#	Delimiter character
AA	The address of the module to be set (00 to FF)
C0	A fixed string denoting channel 0
TC	The command to read the temperature value in degrees Celsius (℃)

Response:

Valid Command: **>(Data)[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command
?	Delimiter for an invalid command
(Data)	The temperature value in degrees Celsius (℃)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: #01C0TC

Response: >+25.8

Reads the temperature of module 01 and returns a value of +25.8 (℃).

Related Commands:

Section 2.17 #AAC0TF, Section 2.18 #AAC0H

2.17 #AAC0TF

Description:

This command is used to read the temperature value of a module in degrees Fahrenheit (℉).

Syntax:

#AAC0TF [CHKSUM](CR)

~	Delimiter character
AA	The address of the module to be set (00 to FF)
C0	A fixed string denoting channel 0
TF	The command to read the temperature value in degrees Fahrenheit (℉)

Response:

Valid Command: **>(Data)[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command
?	Delimiter for an invalid command
(Data)	The temperature value in degrees Fahrenheit (℉)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: @01C0TF

Response: >+078.2

Reads the temperature of module 01 and returns a value of +78.2 (°F).

Related Commands:

Section 2.16 #AAC0TC, Section 2.18 #AAC0H

2.18 #AAC0H

Description:

This command is used to read the relative humidity value of a module (percent value divided by 100).

Syntax:

#AAC0H[CHKSUM](CR)

#	Delimiter character
AA	The address of the module to be set (00 to FF)
C0	A fixed string denoting channel 0.
H	The command to read the relative humidity value

Response:

Valid Command: **>(Data)[CHKSUM](CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command
?	Delimiter for an invalid command
(Data)	The relative humidity value (percent value divided by 100)

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: #01C0H

Response: >+056.3

Reads the relative humidity of module 01 and returns a value of +56.3 (%).

Related Commands:

Section 2.16 #AAC0TC, Section 2.17 #AAC0TF

2.19 #AAC0L

Description:

This command is used to read the logging data stored in the EEPROM.

Syntax:

#AA1cDD [CHKSUM](CR)

#	Delimiter character
AA	The address of the module to be set (00 to FF)
C0	A fixed string denoting channel 0
L	The command to read the logging data

Response:

Valid Command: **>(Data)(CR)**

Invalid Command: **?AA[CHKSUM](CR)**

>	Delimiter for a valid command.
?	Delimiter for an invalid command.
(Data)	If the command is valid, it will return the log data stored in the EEPROM and ignores the checksum even if you enable the checksum function. The logging data format is as follows: SCCC.CSHHH.H% where “S” denotes

either + or -, CCC.C denotes the temperature value in degrees Celsius (℃), and HHH.H% denotes the humidity value.

There will be no response if the command syntax is incorrect, there is a communication error, or there is no module with the specified address.

Examples:

Command: #01C0L

Response: >-009.2+039.7%-009.2+039.7%

Reads the log data for module 01 and returns 2 logging data records.

Related Commands:

Section 2.4 $AAC, Section 2.6 $AAL

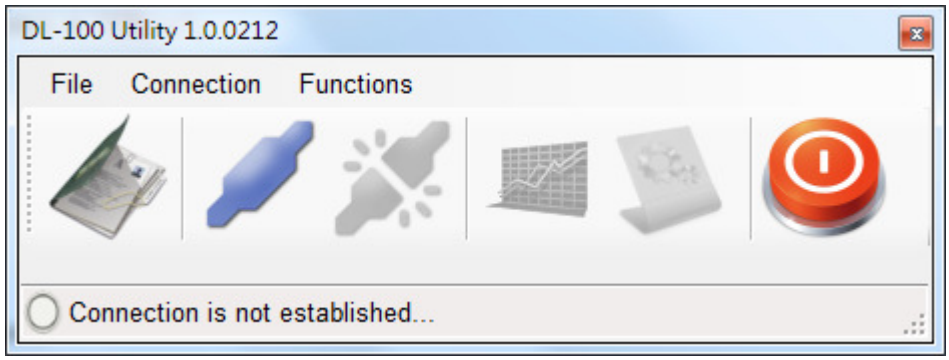
3 Utility Software

3.1 Before you use the Utility Software

1. Before you use this Utility, please make sure you have installed Microsoft .NET Framework 4. If you haven't installed .NET Framework yet, please refer to section 2 for more information, or refer to section 3 for more information about the installation of this Utility.
2. To download .NET Framework, refer: http://www.microsoft.com/downloads/en/details.aspx?FamilyID=9cfb2d51-5ff4-4491-b0e5-b386f32c0992&displaylang=en
3. You also can find the Microsoft .NET Framework 4 web installer package in the following location on the enclosed CD (Napdos\Net_FrameWork\dotNetFx40_Full_setup.exe).
4. The Utility software is located in the following location on the attached CD: Napdos\Data_Logger\DL100T485\Utility.

3.2 DL-100T485 Utility

1. After launching the Utility, the program interface will be displayed, as shown below:

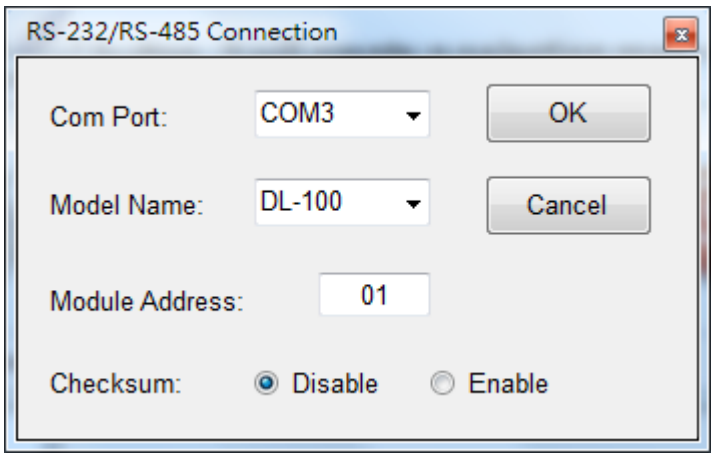


- Clicking “File” or the  icon opens a previous DL-100T485 logging data file stored on your PC.
- Clicking “Connection->Connect->RS-232/RS-485” or the  icon creates a connection from the serial port.
- Clicking “Connection->Disconnect” or the  icon disconnects the connection between the PC and the DL-100T485.
- Clicking *“Functions->Get Records” or the  icon retrieves the logging data which is stored in the EEPROM of the DL-100T485 module.
- Clicking *“Functions->Configuration” or the  icon enables you to configure the DL-100T485 module.
- Clicking “Exit” or the  icon closes the Utility software.

*This function is only valid when a connection has been successfully established between the PC and the DL-100T485 module.

3.3 Connecting to the DL-100T485 Module

1. Clicking the “ ” button will open the selection menu shown below:

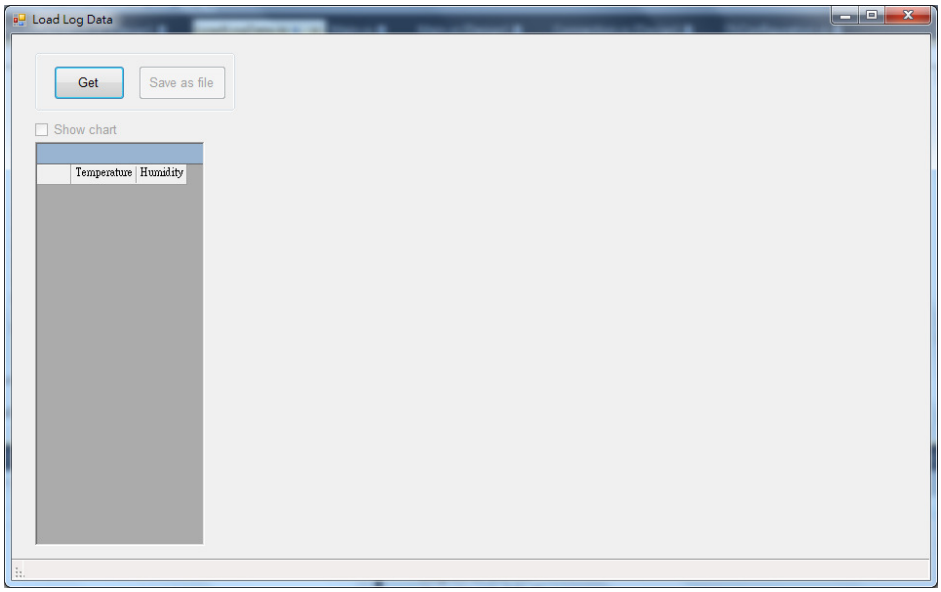


2. Select your COM port number and set the Model Name selection to the DL-100. If you are connecting to a new module, the default address will be 01 and the checksum option will be set to disabled. Click the “OK” button to connect to the DL-100T485 module.
   Note: The LCD will also indicate the module address and the checksum status.
3. If a connection is successfully established, the Utility will return to the previous window and the status bar will display a “Connection is established” message. The “ ” and “ ” icons will also become available.
4. If you want retrieve the records that are stored in the EEPROM of the DL-100T485 module, click the “ ” icon.
5. If you want configure the DL-100T485 module, click the “ ” icon.

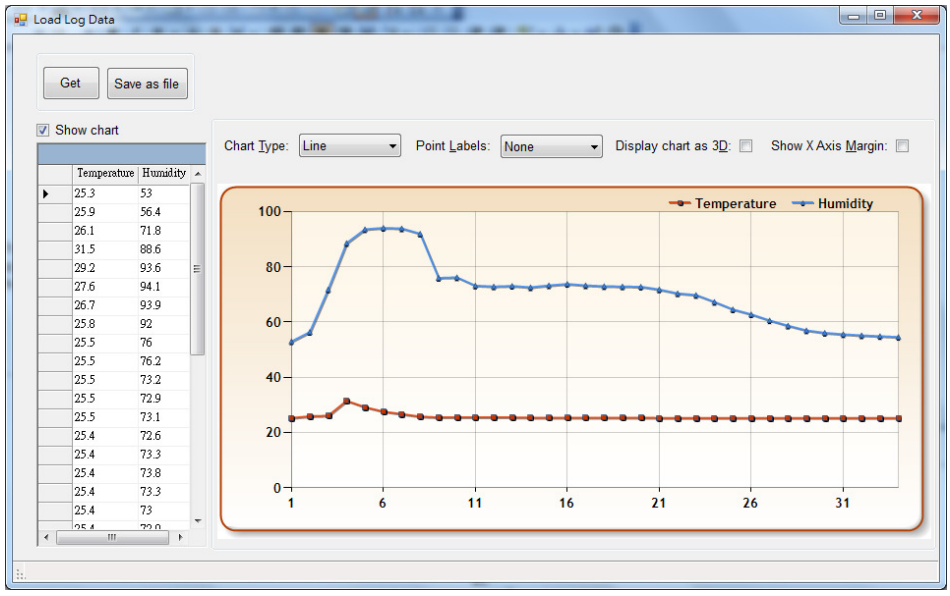
3.4 Retrieving Records

After a connection is established between the PC and the DL-100T485, you can retrieve the logging data via the Utility software. The procedure is as follows:

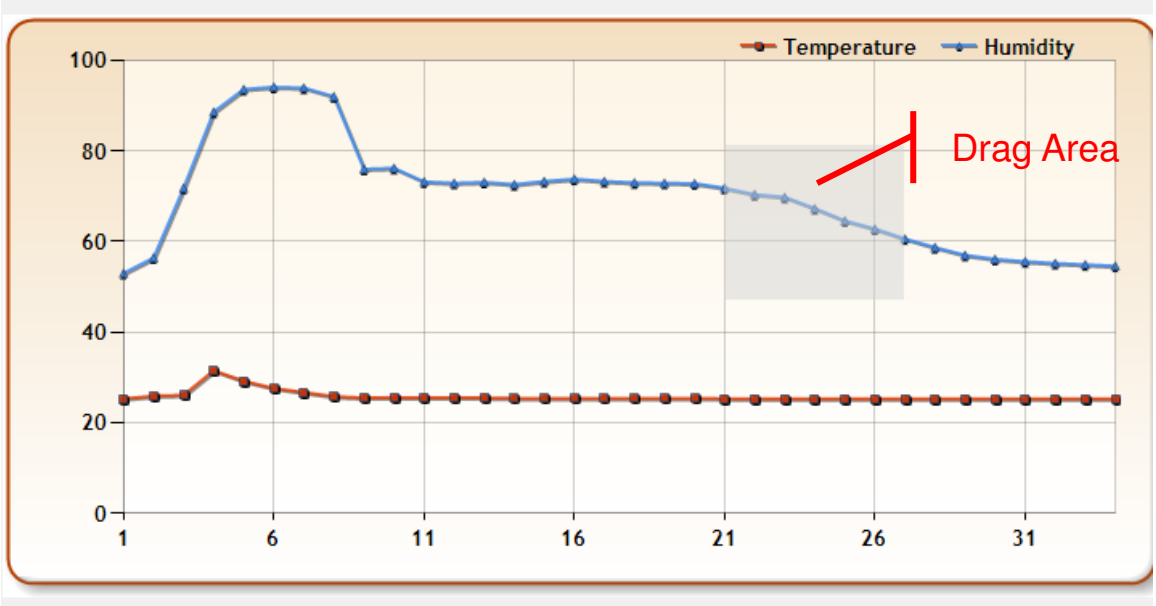
1. Click the “Get” button and wait until the data is successfully received.

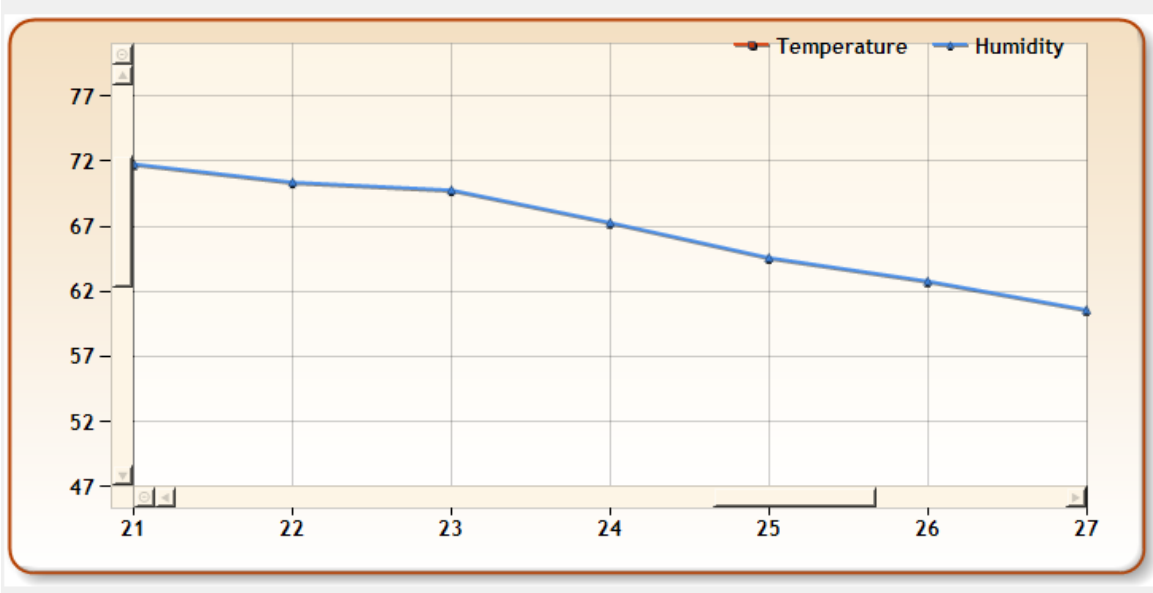


2. The logging data will be listed in the table on at the left hand side of the screen and the trend chart can be opened by clicking the “Show chart” checkbox. Refer to the following diagram for details.

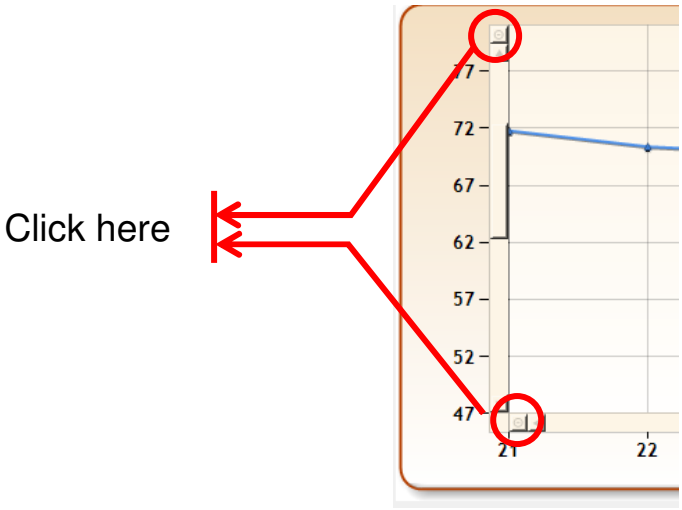


3. To view an area of the chart in greater detail, move your mouse to the area of interest then click and hold the left mouse button and drag and release the button to zoom into that region of the chart.





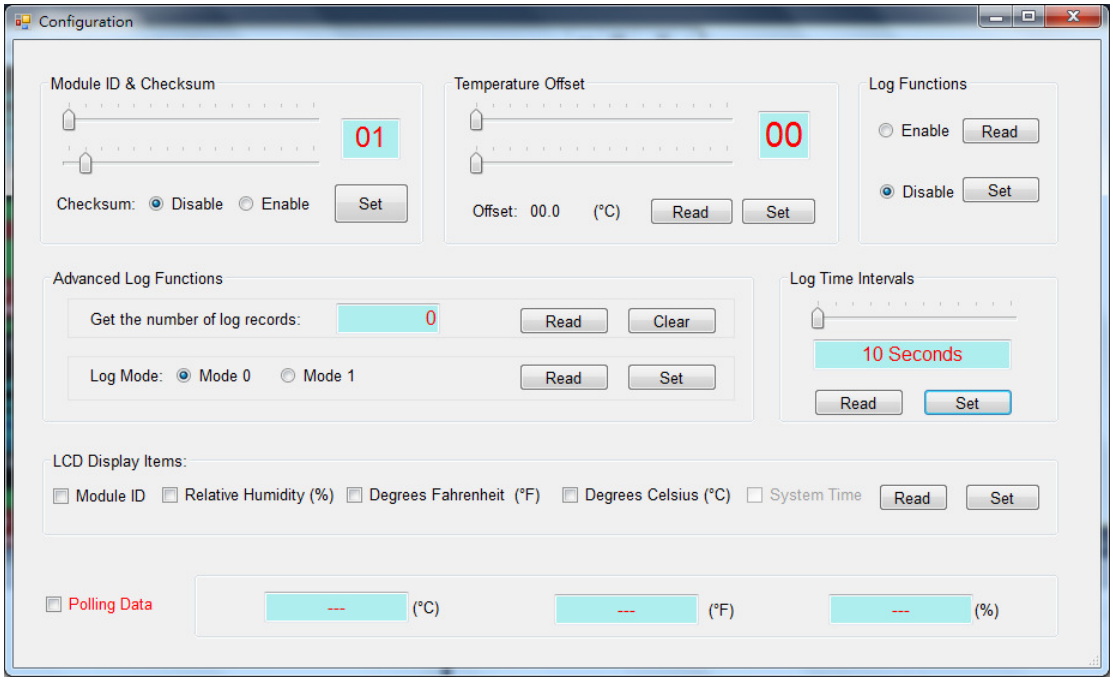
4. The following diagram illustrates how to change the zoom range of X- or Y-axis.



3.5 Configuration

After a connection between the PC and the DL-100T485 has been established, click the “ ” icon to configure the DL-100T485. The configuration details are shown follows:

1. A new menu window would be created and the current module configurations will be displayed. After changing the values, click the “Set” button to update the configurations of the module.

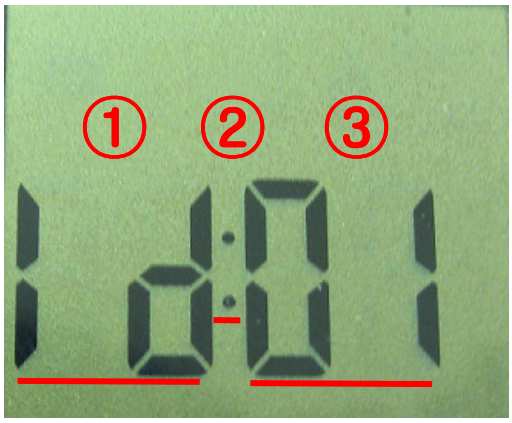


2. When you successfully connect to the DL-100 by using the Utility software, this Utility software will disable the data log function. If you need to the data log function, you need to enable the data log function before you close the Utility software.

4 Appendix

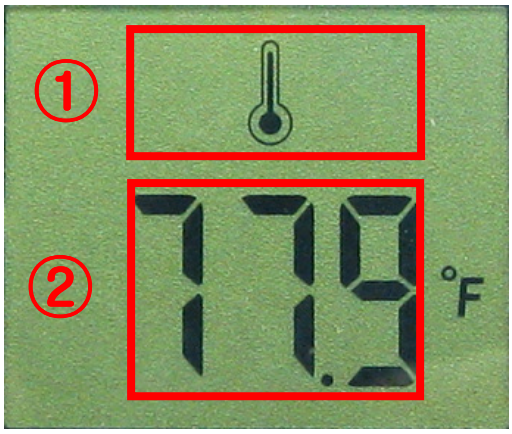
4.1 LCD Information:

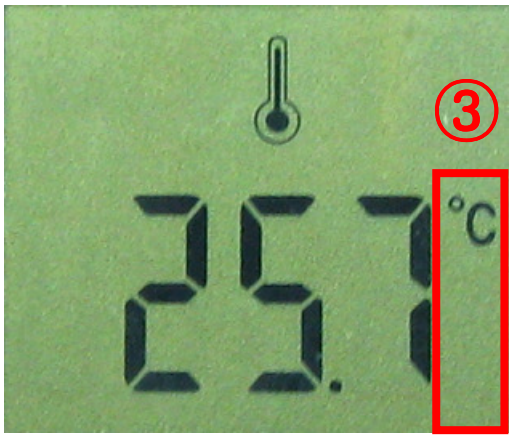
- **Module Address:**



Area	LCD value	Details
①	Id	Indicates that the currently displayed information is the module address.
②	":" or blank	The ":" icon will be displayed when the checksum is enabled; otherwise this position will remain blank (refer to the image on the right above).
③	00~FF	Indicates the current module address, 01 in this example.

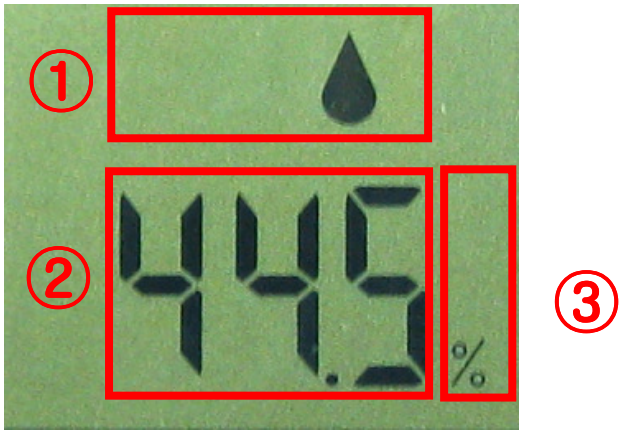
● Temperature Value





Area	LCD value	Details
①	 icon	Indicates that the currently displayed information is the temperature.
②	DDD.D~-DD.D	Indicates the current temperature value.
③	℃ or ℉ icon	Indicates the temperature units.

● Humidity Value



③

Area	LCD value	Details
①	 icon	Indicates that the currently displayed information is the humidity.
②	DD.D	Indicates the current humidity value.
③	% icon	Indicates the humidity units.