

1. Introduction

Easy to install and easy to use, the ICP DAS EKAN-MD104

Web-enabled LED Display includes a built-in web server that allows you to embed on live message in a web page. Sign configuration is executed via a browser (Internet Explorer, Firefox, Chrome, etc.) where you can define IP settings, regular messages and an instant message, all without having to install any software. You can even send dynamic messages, so you can control your display from anywhere that has an internet connection, saving you both time and money.

Built-in Web Server

Use web-based configuration to simplify the set process via the built-in web-server. Display your messages from a live source or from a central location.

2. Features

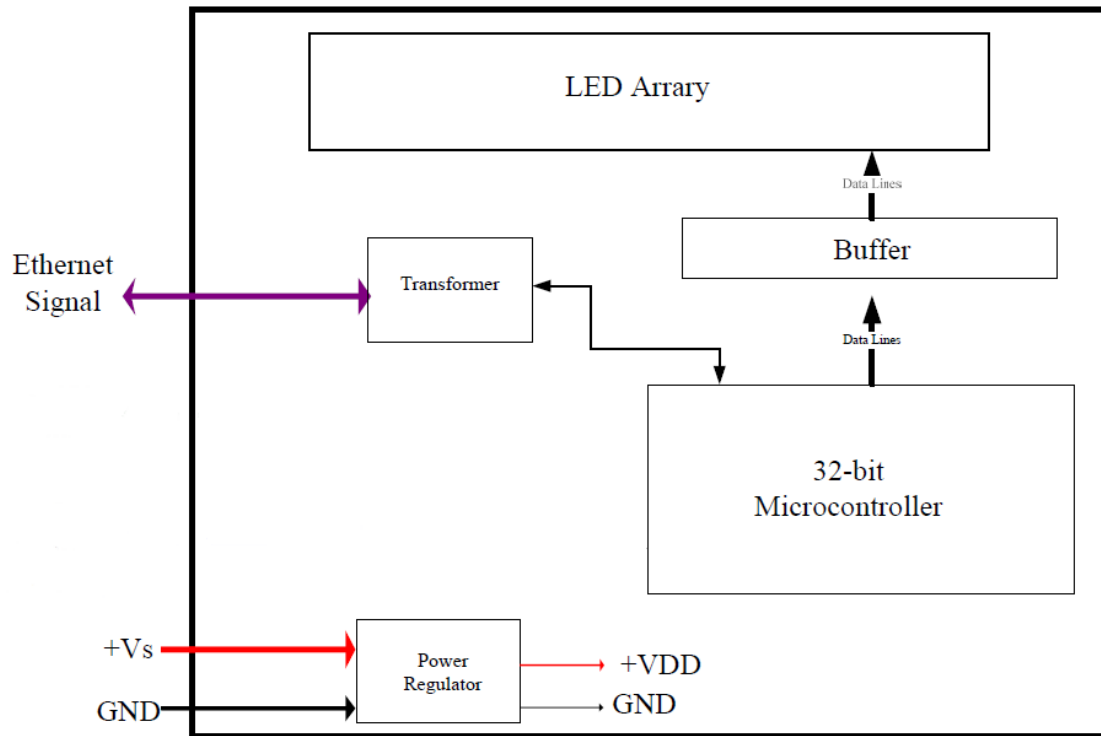
- 10/100 Ethernet included
- Web server installed with real-time remote access to the display
- Two-color LED
- Dynamic entry and exit effects
- Real-time messaging
- Built-in watchdog timer that helps minimize interruptions in harsh environments
- Display multiple languages

3. Specifications

System	
CPU	32-bit ARM
Dual Watchdog	Yes
Communication	
Ethernet Port	10/100 Base-TX (With Link and Activity LED Indicators) Automatic MDI/MDI-X 8-Pin RJ-45 x1
Mechanical	
Dimensions (W x H x D)	724 mm x 115.3 mm x 50 mm
Display Area (L x H)	608 mm x 76 mm
Display Weight	2460 g
Display Array	16 rows x 128 columns
Feature	
Pixel Color	Basic Colors (Red, Green, Amber)
Character Sets	Unicode
Character Array	Unicode (half-width Characters) : 16 x 8 matrix (Depends on the character) Unicode (wide-shaped character) : 16 x 16 matrix
Pixel Size (Diameter)	0.4 cm
Center-to-Center Pixel Spacing	0.4 cm
Environment	
Operating Temperature	-10 °C ~ +60 °C
Storage Temperature	-20 °C ~ +70 °C
Humidity	10 ~ 90% RH, non-condensing
Power Requirements	
Input Voltage Range	+10~ 30 V _{DC}
Power consumption	5 ~ 15 W

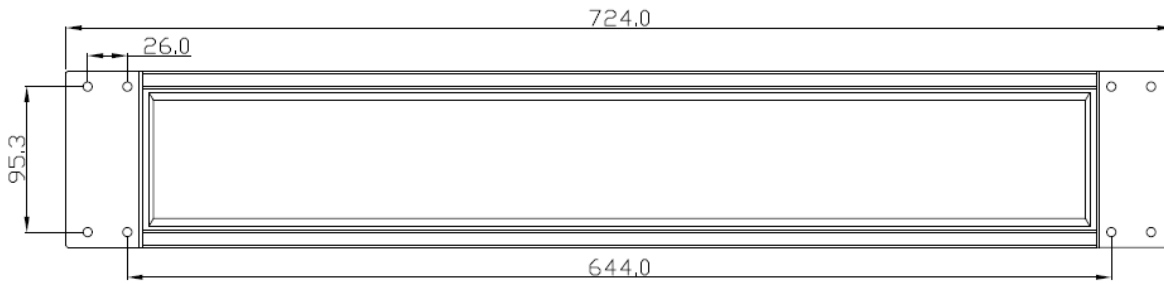
3. Product Description

3.1 Internal I/O Structure

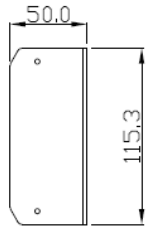


3.2 Appearance

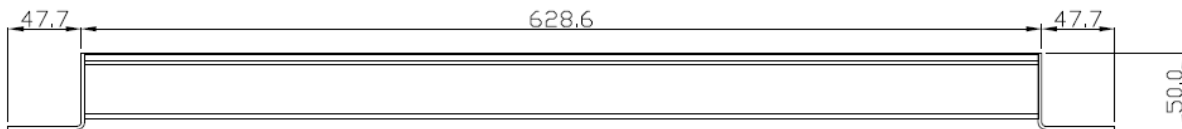
3.3 Dimensions (Units: mm)



Front View



Right Side View



Bottom View

Unit: mm

4. How to use

4.1 Setting the IP address

1. When the MD104-W LED Display first starts up, it will display the IP, Mask, Gateway address details

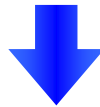
Item	Description
IP	192.168.255.1
Mask	255.255.0.0
Gateway	192.168.0.1

If the first and second numbers of your IP address are 192.168, please skip this section. If not, you will not be able to connect with the MD104-W, and should follow these steps:

Open the “Control Panel” on your PC

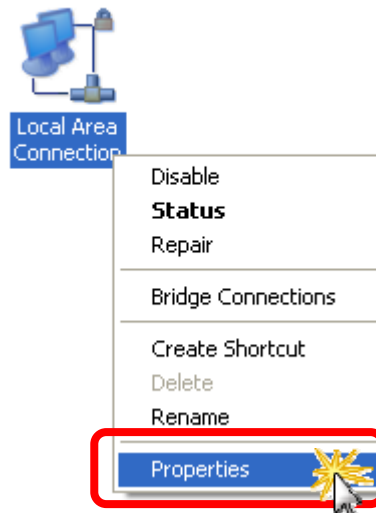


Double Click the “Network Connections” icon

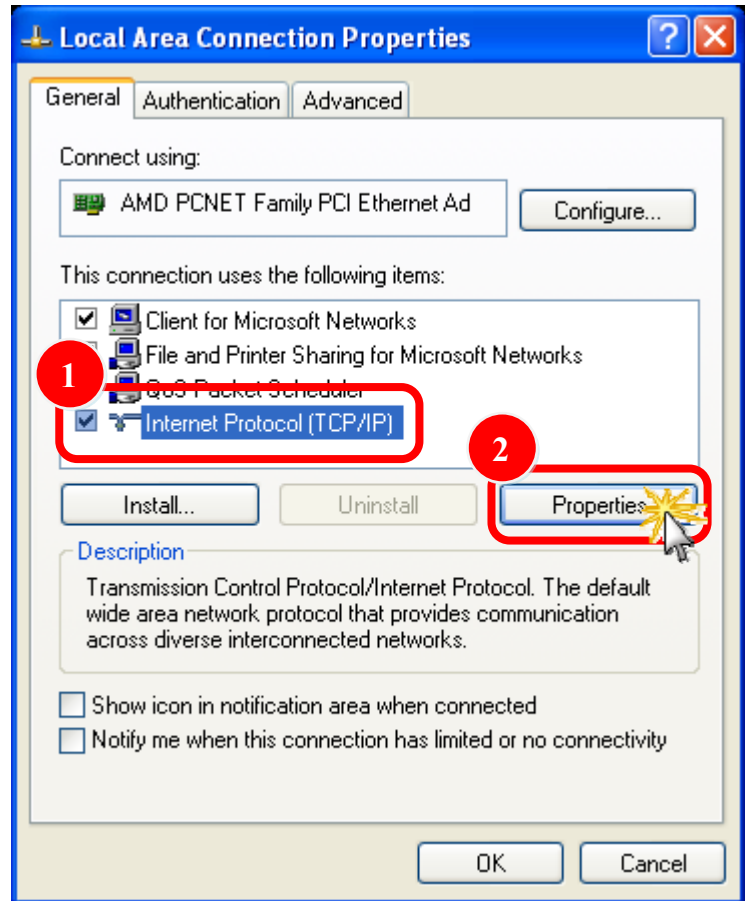


LAN or High-Speed Internet

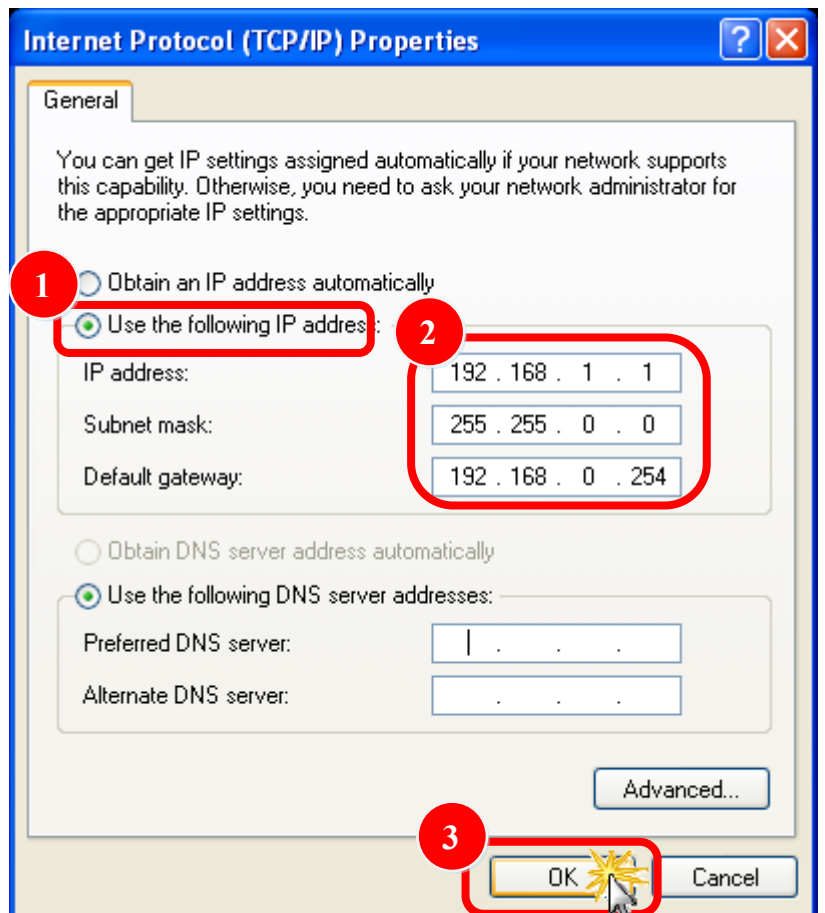
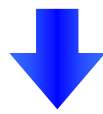
Right Click the “Local Area Connection” icon and Select “Properties” from the dropdown menu



Select the
“Internet Protocol (TCP/IP)”
option and Click the “Properties”
button



Select the
“Use the following IP address:”
Radio button then enter the
appropriate IP address, Subnet
mask and Default gateway values
and then click the “OK” button

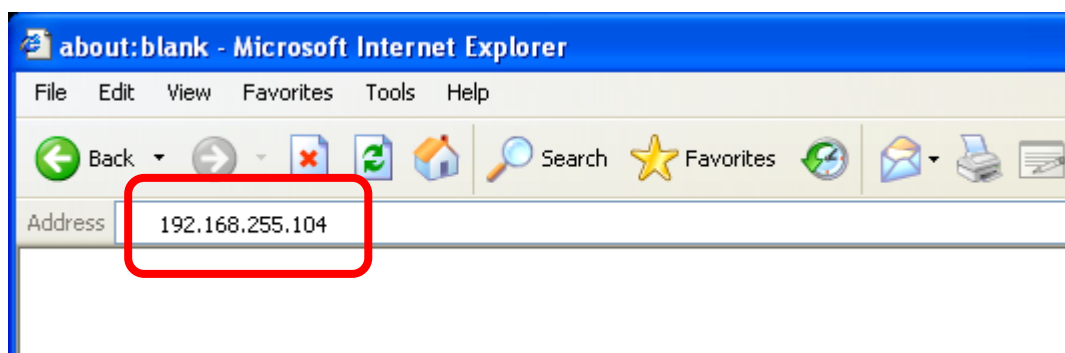


4.2 Logging in to the MD104-W

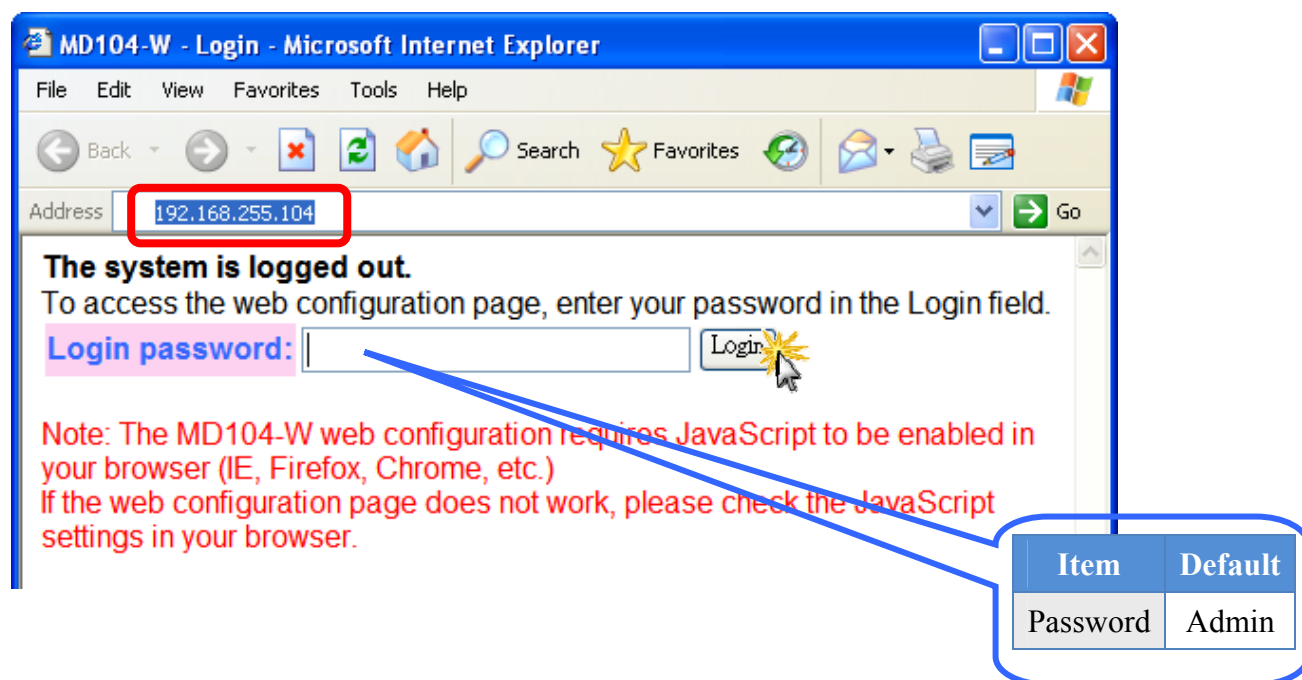
STEP 1: Open your browser (IE, Firefox, Chrome, etc.)



STEP 2: Enter the IP Address of the MD104-W in the address bar of the browser.



STEP 3: Enter your password (The default password is “Admin”) and then click the “Login” button.



4.3 Web Page Overview

When you first login, you'll see the a menu at top of the page.



4.3.1 Index (Home)

After logging in, the contents of the index (home) page will be displayed.

The screenshot shows the main content area of the MD-104 LED Web Messenger interface. It is divided into two sections: 'Regular Messages' and 'Instant Message'.
Regular Messages: This section has a pink header. It contains a table with 10 rows. Each row has a 'No.' column (1-10), a 'Message Color' column with a dropdown menu set to 'Auto', and a 'Message Text' column with a text input field. The first row contains the text 'My First Message'. Below the table are 'RESET' and 'Update Message' buttons.
Instant Message: This section has a red header. It contains a table with one row. The row has a 'Repeat' column with a dropdown menu set to '1', a 'Color' column with a dropdown menu set to 'Auto', and a 'Message Text' column with a text input field. Below the table are 'RESET' and 'INSTANT MESSAGE' buttons.
 At the bottom of the page, there is a copyright notice: 'Copyright©ICP DAS Co.,Ltd.All rights reserved.'

The page is divided into two sections, Regular Messages at the top and an Instant Message section below.

Item	Quantity	Description
Regular Messages	10	Includes a drop-down menu to select the color and a message field for each message
Instant Message	1	

4.3.1.1 Regular Messages

Input Fields

No.	Message Color	Message Text (max. 100 ASCII or 50 Chinese characters)
1	Auto	My First Message

Item	Description
No.	The Message number
Message Color	Used to select the color of the message
	Red
	Green
	Amber
Auto	Randomly chooses from one of the three colors to be used, and the color will be different from the previous message.
Message Text	Enter the text you want to be displayed; you can enter multiple languages, eg: English, Traditional Chinese, Simplified Chinese, Japanese or Korean, etc. You can enter a maximum of 100 ASCII or 50 Chinese characters in this field.

Buttons

9	Auto	
10	Auto	
RESET		Update Message

Item	Description
RESET	The color settings for Regular Messages and the contents of the message fields will be restored to their original state.
Update Message	Updates the Regular Message data to be saved and displayed.

4.3.1.2 Instant Messages

Input Fields

Repeat	Color	Message Text (max. 100 ASCII or 50 Chinese characters)
1	Auto	

Item	Description
Repeat	1 Only displays the Instant Message once, then revert to displaying the Regular Message(s).
	Loop Repeats the Instant Message continuously; Regular Messages will not be displayed when this option is selected.
Message Color	Used to select the color of the message
	Red
	Green
	Amber
Auto	Randomly chooses from one of the three colors to be used, and the color will be different from the previous message.
Message Text	Enter the text you want to be displayed; you can enter multiple languages, eg: English, Traditional Chinese, Simplified Chinese, Japanese or Korean, etc. You can enter a maximum of 100 ASCII or 50 Chinese characters in this field.

Button Introduction

1	Auto	
RESET		INSTANT MESSAGE

Item	Description
RESET	The color settings for the Instant Message and the contents of the message field will be restored to their original states.
INSTANT MESSAGE	Updates the Instant Message data to be saved and displayed.

4.3.2 Display Rules

The rules for displaying messages are as follows:

1. Up to a maximum of 10 Regular Messages will be display in a continuously repeating sequence.
2. The priority for Instant Message is higher than for Regular Messages, so an Instant Message will be displayed immediately, interrupting the sequence of Regular Messages. Depending on the option selected, an Instant Message can either be displayed on a single occasion or as a repeating loop. If the loop option is selected, the Regular Message(s) will not be displayed.

4.3.3 Displaying Messages

Regular Messages

1. Enter the required text in the “Message Text” field. Repeat this step for each message to be displayed. Up to 10 messages can be added with a maximum length of 100 ASCII or 50 Chinese characters.
2. Click the ”Update Message” button to send and save the messages

No.	Message Co	Message Text (max. 100 ASCII or 50 Chinese characters)
1	Auto	My First Message
2	Auto	
9	Auto	
10	Auto	

RESET Update Message

Instant Message

1. Enter the required text in the “Message Text” field.
2. Click the “INSTANT MESSAGE” button to send and save the message

Instant Message

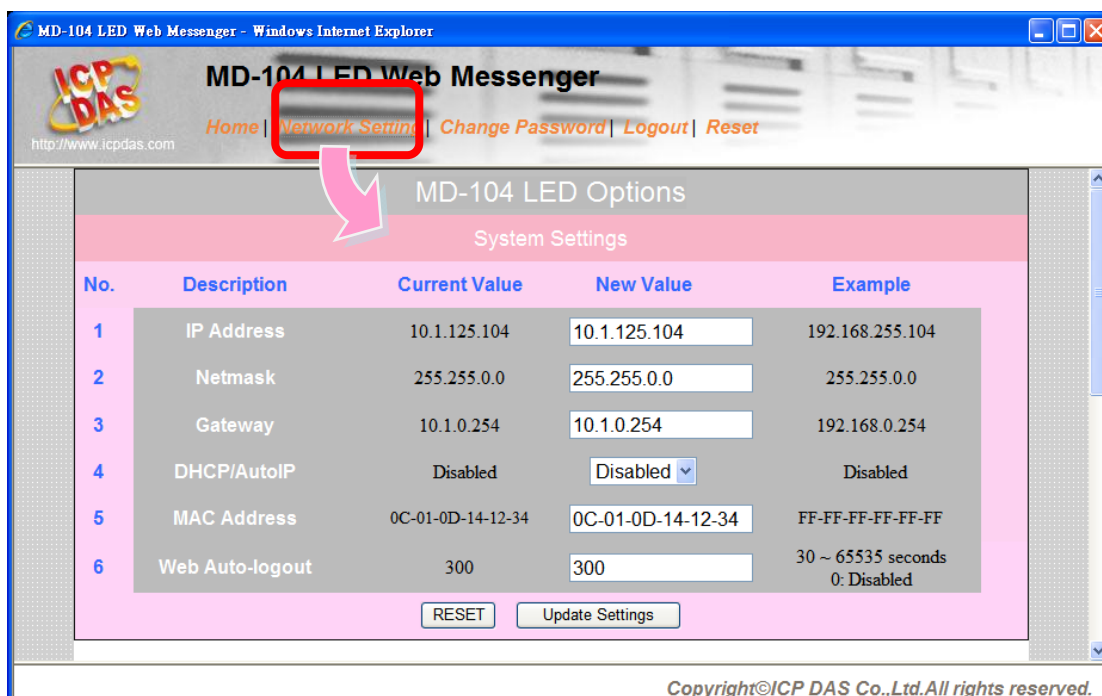
Repeat Color Message Text
(max. 100 ASCII or 50 Chinese characters)

1 Auto

RESET INSTANT MESSAGE

4.3.4 Network Settings

After clicking the Network Settings menu item, the following information will be displayed.



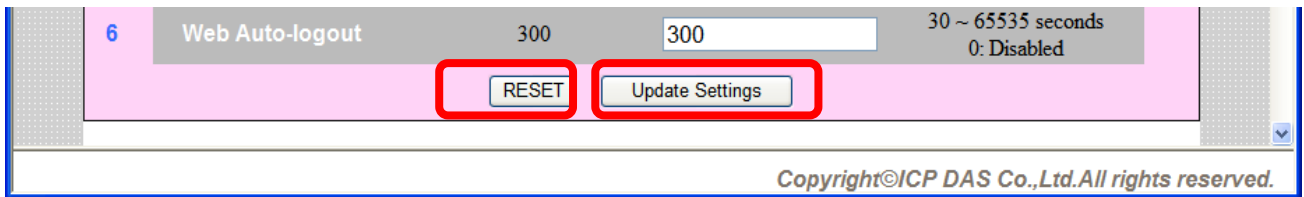
Description

It is reconnected that you follow the format in the example column when modifying these values.

Item	Description
IP Address	Each MD104-W connected to on the network must have a unique IP address.
Netmask	The subnet mask indicates which portion of the IP address that is used to identify the local network or subnet.
Gateway	A gateway (or router) is a system that is used to connect a network with one or more other networks.
DHCP/AutoIP	<p>Disabled: Disables the DHCP Function and uses the IP Address, Netmask and Gateway values from the fields above.</p> <p>Enabled: Enables the DHCP Function. The dynamic Host Configuration Protocol (DHCP) is a network application protocol that automatically assigns IP Addresses to devices. If your domain doesn't have DHCP server, it will automatically configure a set of IP Address, Netmask and Gateway values.</p>
MAC Address	A user-defined MAC address. If you want to use the default MAC address, enter FF-FF-FF-FF-FF-FF.
Web Auto-logout	If no web server is active for a certain period, the user account will be logged out. Units: seconds. Default: 300

Note: Except the The MD104-W needs to be rebooted whenever there is a change in these values with the exception of the “Web Auto-logout” settings.

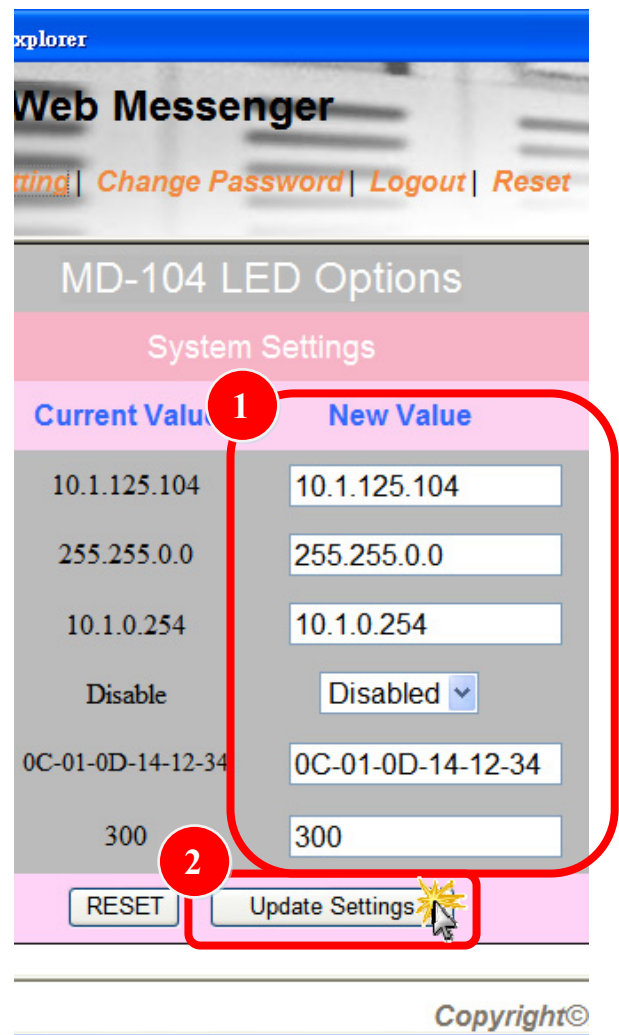
Buttons



Item	Description
RESET	The information entered in the “New Value” fields will be restored to the default values.
Update Settings	The information entered in the “New Value” fields will be uploaded to the LED display.

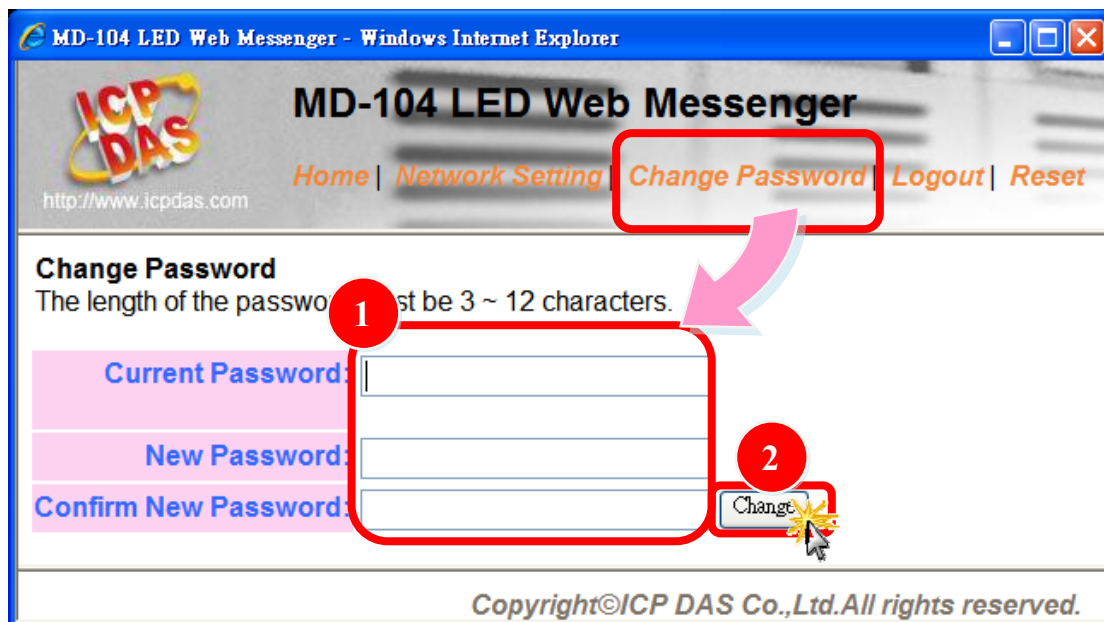
4.3.5 Updating the Settings

1. Enter the appropriate value in the relevant field in the “New Value” column to modify the settings.
2. Click the “Update Settings” button



4.3.6 Change Password

After clicking the “Change Password” menu item, the following information will be displayed.



Item	Description
Current Password	Enter your current password (default is “Admin”)
New Password	Enter a new password
Confirm New Password	Enter the new password again

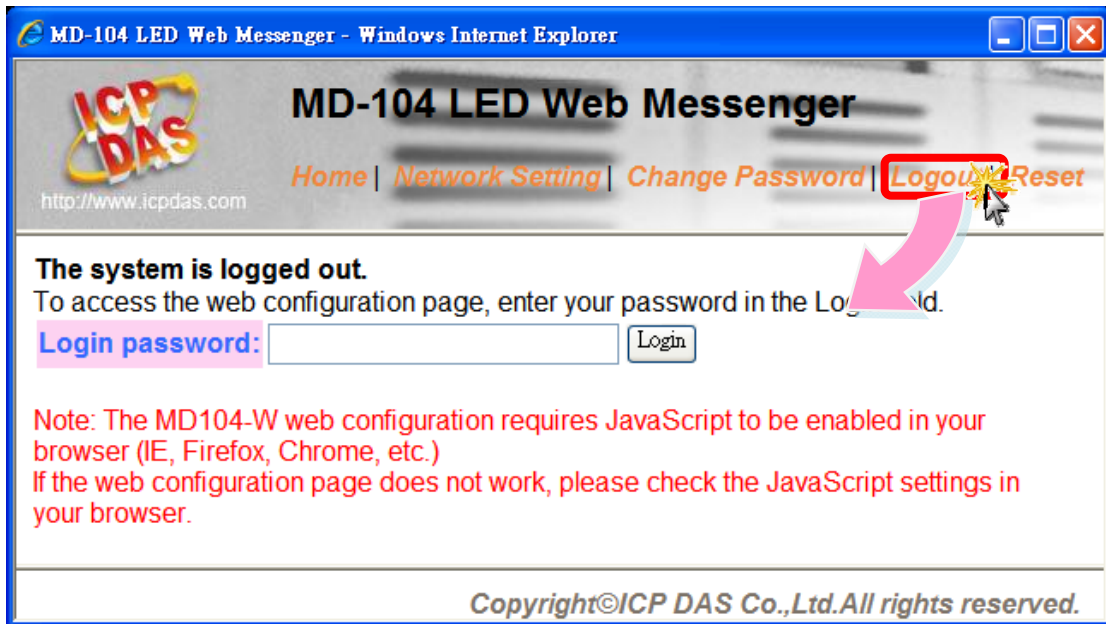
1. Enter your current password (default is “Admin”) in the “Current Password” field, then enter a new password in the “New Password” field and enter it again in the “Confirm New Password” field.

2. Click the “Change” button to modify your password.

Note: You will be automatically logged out of the system when you change the password.

4.3.7 Logout

Click the “Logout” menu item to log out from the system and return to the login page.



4.3.8 Reset

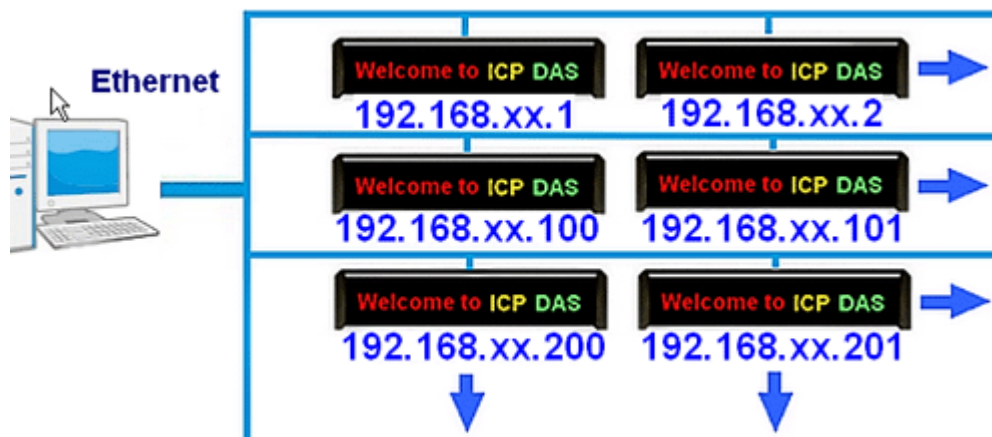
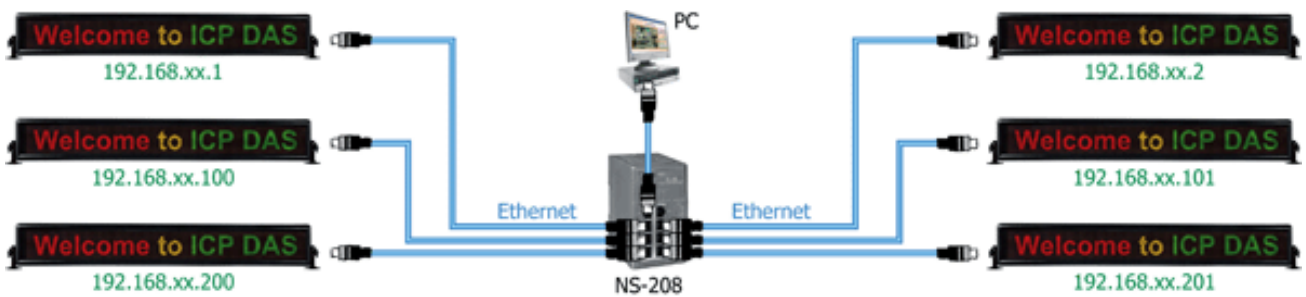
1. To reboot the MD-104, click the “Reset” menu item.
2. A message box will be displayed to ask you to confirm whether you wish to reboot or not.



5. Applications

5.1 A single PC manages multiple LED monitors.

A switch can be used (such as the ICP DAS NS-208) to connect multiple MD104-W devices to the same domain, which can then be managed by entering the appropriate IP addresses in the browser.



5.2 How to connect to a wireless domain

1. The MD104-W can be connected to a T-316 (Wireless Ethernet Client) to become a member of a wireless domain and can be used in DHCP mode.
2. You can also use a Smartphone to connect to web pages or other devices that have a browser function on the same LAN.

