

# Smart Gateway

## (MFG-G400)

### User's Manual



MAXFOR Technology Inc.

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## 1. Symbol Description and Definition

### **WARNING**

Warning messages address situations that could result in injury or critical damage to the Gateway.

### **CAUTION**

Caution messages address situations that could result in damage to the Gateway.

### **NOTE**

Notes relate helpful information.

### **DC Symbol**

Indicates the DC power.

## 2. Notice

### Important matter

- ▷ The following document is not contractually binding. MAXFOR Technology Inc. reserves the rights to revise the document at any point, following the any potential successful upgrade of the product;
- ▷ First-time user, or whomever responsible for the repairing of the product, must read this manual thoroughly before operation.
- ▷ For the product to perform at its best, repairing or maintenance must be under the directives of personnel of, or those appointed by MAXFOR Technology Inc.

### Limitation of Liability

- ▷ MAXFOR Technology Inc. will not be held responsible for any damages such as physical damages occurred on users, if the cause is the inappropriate use of the product against the manual description.
- ▷ MAXFOR Technology Inc. does not appoint any agency or men, the legal rights to represent the company regarding our business.
- ▷ MAXFOR Technology Inc. will not be held responsible for damages or legal prosecution, caused by sales or se of products not approved by us.

 <b>WARNING</b>	Use provided adaptor. When using other adaptors, make sure to use proper rating and standard product. It may causes damage the equipment.
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 <b>CAUTION</b>	Equipment listed in the data sheet allowed range of temperature, humidity and air pressure in use. When used in an environment that exceeds the tolerance of the device can cause malfunction or failure.
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 <b>CAUTION</b>	This equipment is indoor use and all the communication wirings are limited to inside of the building.
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## 3. Introduction

The MFG-G400 is functions as a gateway to transmit data to server without going through PC being collected data from wireless sensor network.

## 4. Features

- Ubiquitous Sensor Network Gateway
- SAMAUNG S3C6410 (ARM core) 633MHz chip.
- Linux Kernel 2.6.x support.
- Ethernet, Serial, JTAG, USB, GPIO Connectors.
- USN to BcN Wireless interface.

## 5. Specification

Item	Specification		Remark
<b>MAIN</b>			
<b>Process</b>	SAMSUNG S3C6410- 667MHz		ARM11 Core
<b>Memory</b>	SDRAM	128 Mbytes	DDR2 533MHz
	NAND Flash	64 M bytes	
	Boot Flash	4 Megabit	
<b>OS</b>	Linux Kernel 2.6.x		
<b>Interface</b>	Parallel	GPIO 4 Ports	
	Serial	USB HOST 1 Port	
		Console 1 Port	
		RS232 2 Port	
<b>LAN</b>	RJ-45 1 Port		100Mbps Only
<b>Debug</b>	On-Board JTAG Converter		
<b>LED</b>	Debugging 5 Bits		POWER, STATE, LINK, Tx, Rx
<b>Support Device</b>	CDMA, WLAN		Option
<b>Alarm</b>	Light		
<b>RF</b>			
<b>Freq. band</b>	2.405G -2.475GHz		IEEE 802.15.4

<b>RF power</b>	-55dBm - 8dBm		Boost mode
<b>Sensitivity</b>	-102dBm		Receive sensitivity
<b>Antenna</b>	Dipole Antenna		
<b>System Operation</b>			
<b>Temperature Range</b>	Operating	-20°C - 50°C	
	Storage	-20°C - 50°C	
<b>Humidity Range</b>	0~95% RH, non-condensing		
<b>Power In</b>	12V  DC		
<b>Power Out</b>	USB Port: 5V  , 500mA		
	Alarm Port: 12V  , 200mA		
	Buzzer Port: 12V  , 200mA		
<b>Consumption</b>	2.0A		
<b>Dimension</b>	185(W) X 130(D) X 45(H)mm		
<b>IP Code</b>	IPXX		
<b>Power source</b>			
<b>AC power adapter</b>	Input: 100-240VAC, 50/60Hz, 1200mA Output: 12VDC, 3.33A		Model NO: GC99D040012

<b>NOTE</b>	Specifications are subject to change without notice.
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## 6. Designation



NO.	Description
1	LED ( Power, STATE, LINK, Tx, Rx)
2	ANTENNA(Dipole antenna)
3	Magnetic key
4	4.3 inch LCD
5	Power & Eternet Hole

## 7. Remote access method to MFG-G400

- Remote access is used to confirm only sensor data and Set values is used to Default values.

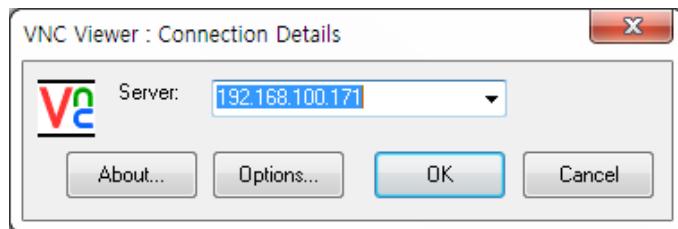
 <b>CAUTION</b>	If you change the setting, remote VNC connection and data linkage can be a problem.
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### 7.1 Access method to VNC Viewer

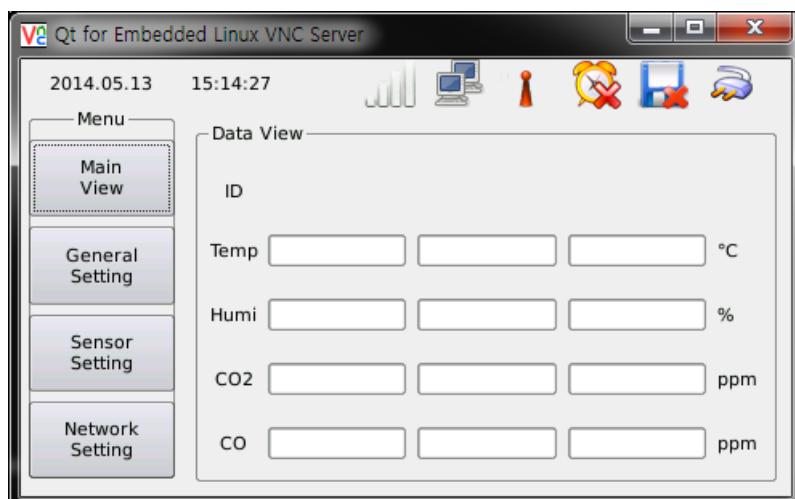
#### ① VNC Viewer Program Installation



#### ② Run VNC Viewer and Connect Server



#### ③ VNC connection screen



## 8. Installation

- Locate the Gateway in an area easily accessible by a technician.
- Avoid locations in which the Gateway will be subjected to vibration or rapid temperature fluctuations.
- Follow local regulations and site requirements.

## 9. Maintenance

### Cleaning

- Use a soft cloth and mild detergent to clean the device. Do not use paint thinner, benzene, solvent or strong detergent.
- Be sure to turn the power key off before cleaning the device.
- Only authorized service personnel should remove the cover of the unit.

### Storage

- Store the equipment in an area with moderate temperature and humidity.
- If the equipment is not to be used for a long time, it is recommended to protect it from dust, dirt or humidity.
- Keep it away from any heating source, direct sunlight, water vapor, or such environment as poor ventilation, excessive shock or vibration.

## 10. Contact information

Web site: <http://www.maxfor.co.kr>

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## FCC Part 15.105 statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## FCC Part 15.21 statement

Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

## FCC Part 15.19 statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Body-worn Operation

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum 20 cm between the radiator and your body. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.