

PRODUCT SPECIFICATION

CUSTOMER NAME: _____

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DUSUN PRODUCT NAME: programmable and multi-protocol
mini IoT gateway

DATE OF ISSUE: _____

REVISION: V1.0

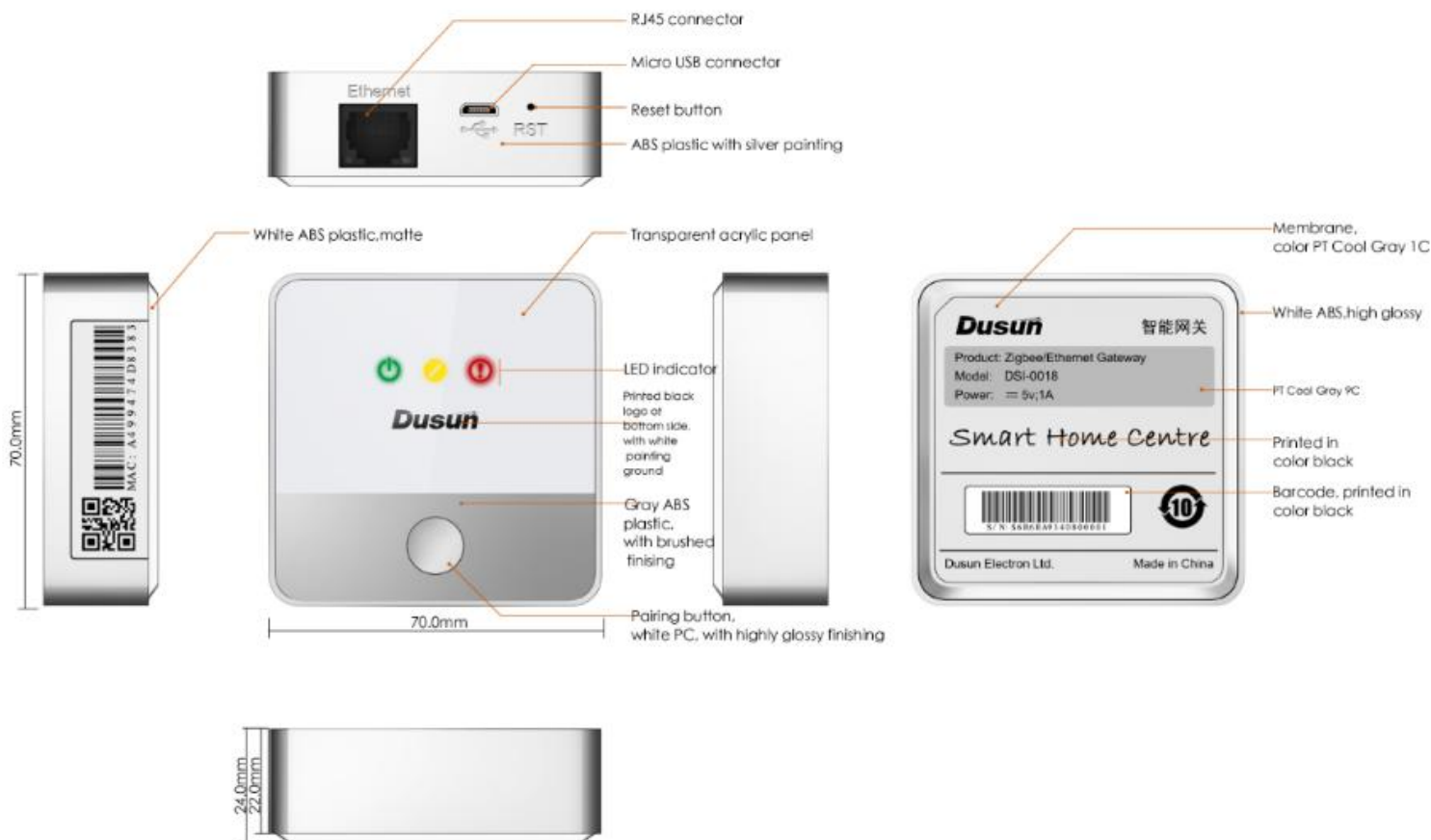
Index	Date	Changes	Written
V1.0	2016/06/14	Release	Tiny

1. Brief introduction

1.1 Overview

It is a Zigbee/bluetooth-Ethernet/Wi-Fi Gateway, be used for smart digital home application. As the core of smart home, intelligent gateway acts as a system of "brain" or "heart" role. It support zigbee3.0 and Zigbee@Greenpower protocol, It also support Bluetooth protocol. The sensor with zigbee3.0 or zigbee@Greenpower protocol can connect to the gateway, like door sensor , PIR sensor ,temperature sensor etc. It collect the sensor data , and sent the data to the cloud by ethernet or Wi-Fi .

1.2 ID and artwork



1.3 Parameter Reference

Item	Standard parameter
CPU	MT7688AN
System	OpenWrt
Power adapter	Standard mini USB port, input: 100V~240V AC/50~60HZ output: 5V/1A
Antenna design	Build in antenna
Network interface	1 WLAN
Mini USB port	1 (only for power supply)
LED	3 (red, green, yellow 1pcs each)
Pin hole	Short press : enter into smartconfig Continues press:back to factory setting
Sensor pairing button	Sensor pairing button
Working temperature range	-5° C ~ 60° C
Working Hum. Range	20%~70%
Working current	200mA
Warrantee terms	12 month
Wi-Fi Characteristic	
Network wireless standard	IEEE 802.11n; IEEE 802.11g; IEEE 802.11b
Maximum transmit rate	300Mbps
Coverage	100m outside (barrier free environment)
Frequency range	Wi-Fi range : 2412-2462MHz / 1-11 channel
Wi-Fi operating mode	STA (connect to AP)
Antenna design	Ceramic antenna /Dual-Antenna
Zigbee Characteristic	
Chip	EFR232MG1BF256
Transmission protocol	Support Zigbee3.0 and Zigbee@Greenpower (IEEE 802.15.4)
Operating frequency	2405-2480MHz
RX sensitivity	-93dbm
Maximum TX rate	250Kbps
Transmission distance	>100m
Frequency modulation	DSSS
Frequency shift	±20Khz (25° C)
Bluetooth Characteristic	
Transmission protocol	Bluetooth 4.2
Operating frequency	2.402Ghz - 2.480Ghz
RX sensitivity	-80dbm@0.1%BER
Maximum TX rate	2Mbps
Transmission distance	>30m

Frequency modulation	GFSK
Frequency shift	±20Khz （25℃）

2. Software specification and experience

2.1 Power on

Power on : when gateway are without setting and network connecting, the 3 LED red/yellow/green will continues lighting ,until initialize successfully, Then,gateway enter the system , the symbol is Green LED flashing at 2HZ . The Green LED is lighting , The system is running successfully. If user set the network before now , it can connect to network automatic . Otherwise, It will be need to set the network . When it connect the network successfully, The Red LED is light off , otherwise, the Red LED is light .

2.2 Buttons

Reset button:

Short press on reset button: press the key within 5sec., gateway shift to samrtconfig mode . Mobile phone could set the network with the app during the time ,Yellow LED flash at 2HZ frequency.

Long press on reset button: press the button more than 5s., gateway back to factory mode,all the pairing information is cleared. Gateway in AP mode ,green LED flash at 2HZ frequency.

Pairing button:

press on pairing button: press the button within 5s. ,gateway enter in to Zigbee pairing mode,yellow LED flash at 2HZ frequency, if pairing succeed ,Yellow LED flash at 5HZ frequency 10times and then turn off. If the pairing time more than 30s, pairing overtime ,yellow LED will turn off ; if the pairing is interrupt,the red LED flash at 5HZ for 10times and then turn off.

2.3 LED indication

Green LED: be used for indicate WIFI mode, and status of connecting to network and server .

Yellow LED: be used for indicate pairing status

RED LED: be used for indicate abnormal and wrong status

2.4 SamrtConfig

When the gateway under SmartConfig mode, The User can set the network with app . Just press one key to finish it , It's easy to set the network .

2.5 Firmware upgrade

Support OTA upgrade , firmware upgrade could be done though network

FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.