# Product Specification

## Product Name: Smart Touch Panel Gateway

## Product Model: DSGW-120V2

Revision History

| Specification | | Sect. | Update Description | By |
|---|---|---|---|---|
| Rev. | Date | | | |
| 1.0 | 2023-01-17 | | New version release | Li |
| 1.1 | 2023-04-23 | | Delete tuya-zigbee function | Hubert |
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Approvals

| Organization | Name | Title | Date |
|---|---|---|---|
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| | | | |
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# Model List



| Feature<br>Model | Wi-Fi<br>2.4G/5.0 | LTE | Bluetooth<br>5.2 | Zigbee<br>3.0 | USB | Ethernet | RS485 | Z-WAVE |
|---|---|---|---|---|---|---|---|---|
| DSGW-120V2-1 | ● | ● | ● | ● | ● | ● | ● | ● |
| DSGW-120V2-2 | ● | ● | ● | | ● | ● | ● | |

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## Contents

# 1 Product Description

## 1.1 Purpose and Description

DSGW-120 Smart Touch Panel Gateway is a multi-functional control panel designed to manage and optimize your smart home experience, providing convenient control of all your devices from one place. It is designed for developers to use when developing their IoT gateway solutions.

## 1.2 Product Feature Summary

**Unlock the Full Potential of Your Smart Home Automation with Powerful Hardware**

Featuring a powerful PX30 processor, an 8-inch IPS capacitive touchscreen display, 2GB RAM, and 8GB eMMC storage, it offers seamless performance and ample storage space for all your smart home needs.

**Multi-Protocol Support for Seamless Integration**

With the ability to communicate using protocols such as Zigbee, Z-Wave, Bluetooth, and Wi-Fi. This device can work with various devices, regardless of their protocols.

**Built-in Microphone and Speaker**

With the built-in microphone and speaker, you can use voice commands to control your smart devices. Additionally, you can engage in two-way conversations with visitors through the camera doorbell utilizing the device.
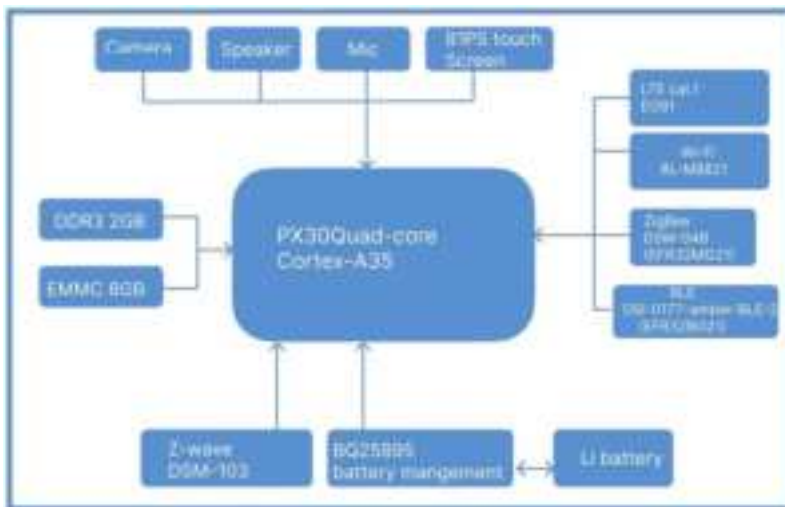
**Compatible with various Home Automation Systems**

Designed to be compatible with kinds of home automation platforms, such as Home Assistant and openHAB, which are widely used open-source solutions for home automation. These platforms can easily integrate and manage many smart home devices.

**Effortless installation with convenient wall-mounting**

Designed for easy installation using wall mounting, which provides a clean and streamlined look, reducing clutter and enhancing the overall appearance of the space.

### 1.3 Hardware Block Diagram



# 2 Mechanical Requirement

## 2.1 Drawings

## 2.2 Dimension



# 3 Specification

## 3.1 Technical Specification

| Item | Parameter |
|---|---|
| CPU | PX30 |
| RAM | 2GB |
| eMMC | 8GB |
| OS | Android 10/Debian 10 |
| Power Adapter | DC/AC 12~24V/2A |
| Interface | 1*WLAN/LAN port，1*RS485 |
| SIM slot | 1 |
| Camera | 5 million pixels， Panoramic depth camera |
| SD card | 1 |
| Speaker | 1 |
| Microphone | 1 |
| RTC | Real-Time Clock operated from the onboard battery |
| Li battery | Embedded 2500mAH/ 4hr battery |
| Auto Power-On | When the main power is lost, the system's auto power-on feature activates the UPS mode and utilizes the battery. Similarly, it switches back to the primary power source when restored. |
| Reset Button | The reset button is the hole button; After pressing the reset button for more than 5 seconds, the Gateway will be restored to the factory settings. |
| Power switch | ON/OFF |
| Power LED | Green when plugged in and red if the battery is low. |

## 3.2 Wireless Performance

| | |
|---|---|
| Wi-Fi Performance | IEEE Wireless LAN standard:<br>IEEE802.11n; IEEE802.11g; IEEE 802.11b<br>Data Rate:<br>IEEE 802.11b Standard Mode:1,2,5.5,11Mbps<br>IEEE 802.11g Standard Mode:6,9,12,18,24,36,48,54 Mbps IEEE 802.11n:<br>MCS0~MCS7 @ HT20/ 2.4GHz band<br>Sensitivity:<br>HT40 MCS7 : -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band<br>Transmit Power:<br>IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHz band IEEE 802.11g: 16dBm @54MHz<br>IEEE 802.11b: 18dBm @11MHz<br>Wireless Security: WPA/WPA2, WEP, TKIP, and AES<br>Working mode: Bridge、Gateway、AP Client<br>Range: 50 meters minimum, open field<br>Transmit Power:17dBm<br>Highest Transmission Rate: 300Mbps<br>Frequency offset: +/- 50KHZ<br>Frequency Range (MHz): 2412.0~2483.5<br>Low Frequency (MHz):2400<br>High Frequency (MHz):2483.5<br>E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW<br>Bandwidth (MHz):20MHz/40MHz<br>Modulation: BPSK/QPSK, FHSSCCK/DSSS, 64QAM/OFDM |
| Zigbee3.0 Performance | Range: 100 meters minimum, open field<br>Transmit Power:17.5dBm<br>Highest Transmission Rate: 2Mbps<br>Frequency offset: +/- 20KHZ<br>Receiving Sensibility:-94dBm<br>Frequency Range (MHz):2401.0~2483.5<br>Low Frequency (MHz):2400<br>High Frequency (MHz):2483.5<br>E.i.r.p (Equivalent Isotopically Radiated power) (mW)<100mW<br>Bandwidth (MHz):5MHz<br>Modulation: OQPSK |

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|---|---|
| Bluetooth Performance | Bluetooth Protocol: Bluetooth 5.2<br>TX Power: 19.5dBm<br>Range: 150 meters minimum, open filed<br>Receiving Sensibility: -80dBm@0.1%BER<br>Frequency offset: +/-20KHZ |
| Z-wave Performance | TX power up to13dBm (20mW)<br>RX sensitivity: @100kbps-97.5dBm<br>Range: 100 meters minimum, open filed<br>Default Frequency: 916MHz( Different country with different frequency) |
| LTE Cat.1 | -E(Europe LTE-FDD: B1/B3/B7/B8/B20/B28A;WCDMA: B1/B8;GSM: B3/B8<br>-EX(Europe)LTE-FDD: B1/B3/B7/B8/B20/B28: WCDMA: B1/B8: GSM: B3/B8<br>-NAXD(North America)LTE-FDD: B2/B4/B5/B12/B13/B25/B26:WCDMA: B2/B4/B5<br>-NA(North America)LTE-FDD: B2/B4/B5/B12/B13:WCDMA: B2/B4/B5<br>-NAX(North America)LTE-FDD: B2/B4/B5/B12/B13/B25/B26:WCDMA: B2/B4/B5<br>-VX (Verizon)LTE-FDD:B4/B13<br>-AUX(LAT /ANZ)<br>LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B28/B66:WCDMA: B1/B2/B5/B8: GSM: B2/B3/B5/B8 |
| Ethernet | 10/100M bps |

# 4  QA Requirement

| Information Description | Standard(Yes) Custom(No) |
|---|---|
| ESD Testing | Yes |
| RF Antenna Analysis | Yes |
| Environmental Testing | Yes |
| Reliability Testing | Yes |
| Certification | FCC, CE |

# 5  Installation ( Wall Mounting)

FCC Statement
1. 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.
(2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE:
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.

To comply with RF exposure requirements, a minimum separation distance of 20 **cm**

must be maintained between the user's body and the **device**, including the antenna.