

# Product Specification

**Product Name: Outdoor LoRaWAN Gateway**  
**Model Name: DSGW-010C**

## Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2020-01-30		New version release	

## Approvals

Organization	Name	Title	Date

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## 1. Introduction

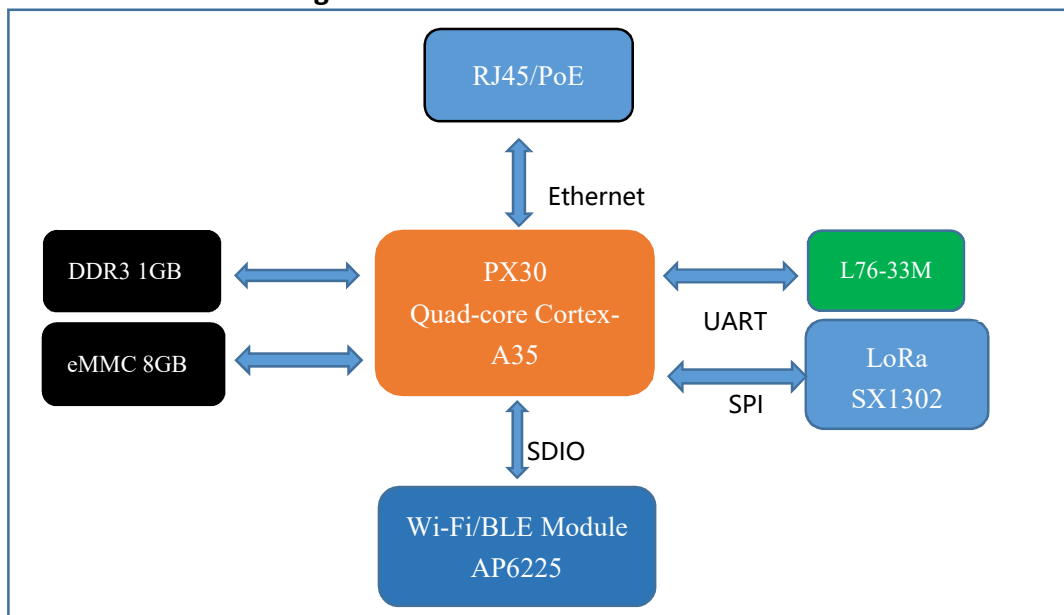
### 1.1 Purpose& Description

DSGW-010C is a full 8-channle outdoor Gateway, based on the LoRaWAN protocol, with built-in Ethernet connectivity for a straightforward setup. Additionally, there is an on-board Wi-Fi setup (supporting 2.4 GHz/5GHz Wi-Fi) that allows it to be easily configured via the default Wi-Fi AP mode. With its industrial-grade components, it achieves a high standard of reliability.

### 1.2 Product Feature Summary

- Support the POE switch power supply
- Support IEEE802.3-2012 Type 1, the IEEE802.3-2012 Type 1 requires a power supply device (PSE) to provide 44 to 57V, and the power of the powered device (PD) must not exceed 12.95 W and the current does not exceed 350 mA.
- CPU: Quad-core Cortex A35
- 1GB on-board RAM
- 8GB eMMC
- Base on the LoRa Concentrator Engine: Semtech SX1302
- TX power up to 27dBm, RX sensitivity down to -139dBm @SF12, BW125kHz
- LoRa Frequency band support: RU864, IN865, EU868, US915, AU915, KR920, AS923.
- Support Wi-Fi 2.4G/5G IEEE 802.11b/g/n/ac
- Support BLE5.0
- Support GPS, GLONASS, Galileo and QZSS
- Support IP66 waterproof housing
- Support OTA
- One WAN/LAN variable network port
- RoHS/WEEE compliance(Lead-free)
- FCC, CE, IC compliance

### 1.3 Hardware block diagram

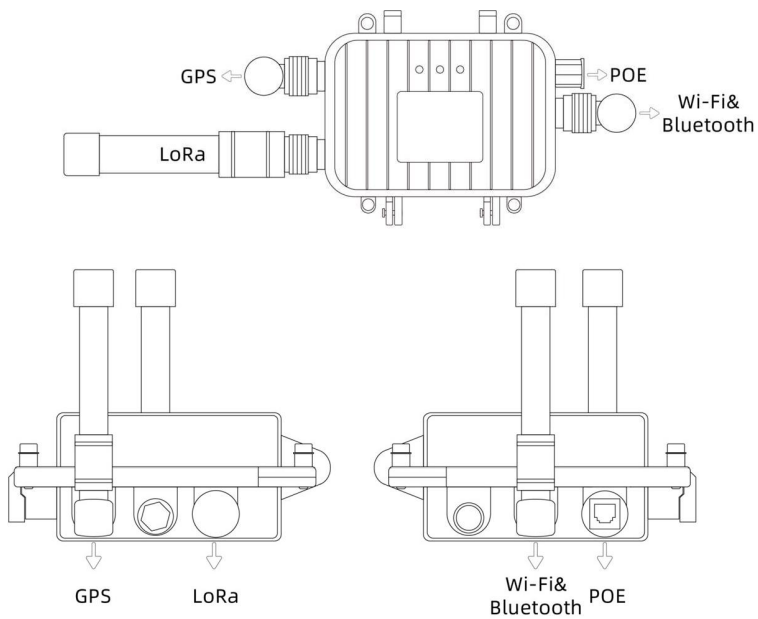


## 2. Mechanical Requirement

### 2.1 Drawings



### 2.2 Interface



## 2.3 installation



## 3 Electrical Requirements

### 3.1 Hardware Information

Category	Specifications
CPU	Quad-core Cortex-A35
RAM	1GB
ROM	eMMC 8GB
System	Linux
Security module	ATECC608
Power Supply Port	Support DC input , input Voltage range is 4.5V to 5V. Power seat aperture is 3.5mm. The needle diameter is1.35 mm and is positive. Power adapter: 100-240V 50/60HZ, Output is 5V/2A
Reset button	The reset button inside gateway, After pressing the reset button for more than 5 seconds, the Wi-Fi unit will be restored to the factory settings.
Network Interface	The network interface supports CAT-5/CAT-5E to transmit data and POE Power Supply (voltage range is 44~ 57V). It is WAN/LAN variable.
Indicator LEDs	1).Power LED normally on when powered on 2).Network LED normally on when connected 3). Card indicator
TF card	Up to 128GB
Operating Temperature	-20°C~65°C
waterproof level	IP66

### 3.2 Performance Requirement

<p><b>Wi-Fi Performance</b></p>	<ul style="list-style-type: none"> <li>• IEEE wireless LAN standard: IEEE802.11n; IEEE802.11g; IEEE 802.11b</li> <li>Data Rate: IEEE 802.11b Standard Mode:1,2,5.5,11Mbps IEEE 802.11g Standard Mode:6,9,12,18,24,36,48,54 Mbps IEEE 802.11n: MCS0~MCS7 @ HT20/ 2.4GHz band MCS0~MCS7 @ HT40/ 2.4GHz band</li> <li>• Sensitivity: HT40 MCS7 : -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band</li> <li>• Transmit Power: IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHz band IEEE 802.11g: 16dBm @54MHz IEEE 802.11b: 18dBm @11MHz</li> <li>• Wireless Security: WPA/WPA2, WEP, TKIP, and AES</li> <li>• Working mode : Bridge、 Gateway、 AP Client</li> <li>• Range: 50 meters minimum, open field</li> <li>• Transmit Power:17dBm</li> <li>• Highest Transmission Rate: 300Mbps</li> <li>• Frequency offset: +/- 50KHZ</li> <li>• Frequency Range (MHz): 2412.0~2483.5</li> <li>• Low Frequency (MHz):2400</li> <li>• High Frequency (MHz):2483.5</li> <li>• E.i.r.p (Equivalent Isotopically Radiated power)(mW)&lt;100mW</li> <li>• Bandwidth (MHz):20MHz/40MHz</li> <li>• Modulation: BPSK/QPSK, FHSSCCK/DSSS, 64QAM/OFDM</li> </ul>
<p><b>BLE Performance</b></p>	<ul style="list-style-type: none"> <li>• TX Power: 10dBm</li> <li>• Range: 150 meters minimum, open filed</li> <li>• Receiving Sensibility: -80dBm@0.1%BER</li> <li>• Frequency offset: +/-20KHZ</li> <li>• Frequency Range (MHz):2401.0~2483.5</li> <li>• Low Frequency (MHz):2400</li> <li>• High Frequency (MHz):2483.5</li> <li>• E.i.r.p (Equivalent Isotopically Radiated power) (mW)&lt;10mW</li> <li>• Bandwidth (MHz):2MHz</li> <li>• Modulation: GFSK</li> </ul>

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<b>LoRa Performance</b>	<ul style="list-style-type: none"><li>• Supports class A, C</li><li>• Frequency band support: RU864, IN865, EU868, US915, AU915, KR920, AS923</li><li>• TX power up to 27dBm, RX sensitivity down to -139dBm @SF12, BW125kHz</li></ul>
<b>GPS</b>	GPS, GLONASS, Galileo and QZSS
<b>Ethernet</b>	WAN/LAN port: 10M/100Mbps

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