Gateways

Munisense gateways provide the communication with our meters, controllers and sensors, based on ZigBee or LoRa communication, and our INSIGHTNOW™ cloud platform. These gateways are the center of our Smart City solutions for managing noise, water levels, air quality, lighting, traffic and indoor climates. We have indoor gateways and robust outdoor versions. Software for our gateways can be updated remotely.

Our smallest gateway, ZGD model is suitable for ZigBee communication indoors, with a limited amount of messages (about once per second). The ZGD connects the ZigBee network to Ethernet and via this LAN port to the INSIGHTNOW™ platform. The measurement data and configuration data is directly accessible via the open web interfaces through the LAN.

The ZGI, a powerful gateway for indoor use, that links to LAN and optional WiFi, Bluetooth low energy, 3G or 4G communications or LoRa. This gateway is suited for large networks (hundreds of sensors) with a lot of communication. The gateway detects remote power failure and has a comprehensive web interface for configuring the gateway.

When connection to the INSIGHTNOW™ platform is temporarily unavailable, the measurement data will be stored in the gateway until connection is restored.

The ZGO is suitable for prolonged outdoor use. In addition to the capabilities of the ZGI, the ZGO is equipped with a Li-Ion battery to bridge a period of approx. 20 to 24 hours. The optional battery pack extends the run-time by a factor of 5. The ZGO also has a connection for solar panels and a built-in Li-Ion charger with maximum power point tracking.

- Full remote management
- ZigBee and optional LoRa
- WiFi and GPS
- 4G mobile internet
- Comprehensive security
- Rechargeable battery
- Solar option for stand-alone use
### Functional
- **Storage ZigBee messages**: ZGD, ZGI, ZGO
- **AutoSwitchover (Ethernet Mobile)**: yes, yes, yes
- **3G/4G auto recovery**: yes, yes, yes
- **Over the air Upgrade**: yes, yes, yes

### Environment
- **Temperature**: 0..50 °C, -10..60 °C, -20..70 °C
- **Humidity**: 20..95%, 20..99%, 20..99%
- **Ingress protection**: IP44, IP66

### Energy
- **Consumption**: 0.5W, 2.4W, 2.4W
- **Connection adapter**: 5V, 5V, 12-24V
- **Powerfail detection**: yes, yes
- **Solar**: supports solar panels, yes
- **MPPT solar energy**: - , yes
- **Battery**:
  - **Capacity**: - , 74 Wh
  - **Operating time (days)**: - , 1

### Network
- **Ethemet**: 10/100, 10/100, 10/100
- **ZigBee type**:
  - **coordinator**: < 50, <250, < 250
  - **speed (messages/sec)**: <10, <100, <100
  - **range (meters)**: 40, 40, 400
- **Wifi**: - , optional, optional
- **Mobile**:
  - **4G**: optional, optional, optional
  - **GPS, integrated**: - , optional

### CE/FCC
- **ZigBee**:
  - **module**: EN358LRS, EN358LRS, EN358LRS
  - **FCC Rules parts**: 15C, 15C, 15C
  - **FCC ID**: S4GEM35XB, S4GEM35XB, S4GEM35XB
  - **FCC Issue date**: Jan/31/2011, Jan/31/2011, Jan/31/2011
  - **Frequency (GHz)**: 2400..2483.5, 2400..2483.5, 2400..2483.5

#### 3G (option)
- **HSPA dual band (MHz)**: - , 900/2100, 900/2100
- **GSM Quad band (MHz)**: - , 850/900/1800/1900, like ZGI
- **CE certificate**: - , G110086E, G110086E

#### 4G (option)
- **Five-Band FDD-LTE**: - , B1/B3/B7/B8/B20, like ZGI
- **Dual band TDD-LTE**: - , B38/B40, B38/B40
- **Dual band UMTS-HSDPA**: - , B1/B8, B1/B8
- **Dual band GSM-GPRS**: - , 900/1800 MHz, 900/1800 MHz
- **CE certificate**: - , G110459F, G110459F

### Dimensions and weight
- **Dimensions (L x W x D in mm)**: 50x50x20, 104x72x36, 160x80x70
- **Weight, incl. battery (gram)**: 150, 350, 800

### Mounting
- **Pole mount (20..80 mm)**: - , - , yes
- **Pole (27 mm)**: - , - , optional
- **Suspending means**: - , - , yes

### LoRa: upon request.
### Ordering information:
- **Hardware version**: MSZGD, MSZGIA-MMW, MSZGOA-MMWE
- **Available options**: 4G, WiFi, Ethernet IP67

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**About Munisense**

Munisense develops, sells and manages highly innovative real-time and online measurement and control solutions for business and government. Solutions that provide immediate insight in noise, vibrations, water levels, energy use, lighting, water and air quality and that allows effective control over lighting levels, ventilation, and pump activity.

Our INSIGHTNOW™ meters are connected to our INSIGHTNOW™ cloud platform where the data is stored in real-time for analysis, visualisation and reporting. The information from the platform can be viewed in a range of specific visualisations any time, any where through a web browser or using our phone or tablet apps. Our applications are developed in close cooperation with universities, governments, partners and customers.