SENIMAX CELLULAR GATEWAY

SeniMax is a low-power, high-performance data collector, and remote communication gateway.

SeniMax wirelessly receives data from SeniMax nodes using , and it sends the data to a remote cloud server using cellular data service. A single SeniMax can cover up to 100 SeniMax sensors within its wireless communication range. The solar powered SeniMax is the ideal solution for applications involving distributed sensing and data acquisition where access to main power or communication infrastructures is unavailable. Specific applications include structural integrity monitoring for highway bridges, retaining walls, dams, tunnels, buildings, mining equipment, construction projects, pipelines, and more.

SeniMax™

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FEATURES

- **Wireless Interfaces:** ZigBee (IEEE 802.15.4) for communication with SeniMax nodes. 4G LTE (for cellular communication)
- **Ingress Protection:** IP66, weatherproof and protected against rain, snow, and UV exposure.
- **Coverage:** Up to 100 SeniMax nodes
- **Lightweight:** Transceiver box: 2.1 kg (4.63 lb.) Dual solar panel with mount and 3m (10 ft) cable: 450 g (1 lb.)
- **ZigBee Wireless Communication Range:** 300 m (980 ft) for reliable communication.
- **Power Source:** Redundant (two) rechargeable lithium-ion 18650 battery.
- **Battery Charging:**
  Option 1: Redundant (two) integrated solar panels
  Option 2: Mains power (100–24V AC)
- **Health Check:** Regularly reports battery voltage, charge currents, cellular signal strength, and modem error codes.
- **Mounting Options:** Flange mount: Secured to concrete using two small bolts.
- **Adhesive tape:** Does not require drilling (smooth surfaces such as steel).
- **Belt:** Secures the gateway to a pole or column with a couple of zip ties.
- **Ultra-low Power:** With fully charged batteries, functions for 6 weeks in the absence of solar or mains charging.
- **Camera Option :** A proprietary camera can be connected to the SeniMax gateway. It takes photos regularly (typically one every 3 hours).
- **Trigger Photos :** In addition to regular photos, the camera can be triggered using an over-the-air command from a wireless strain gauge, SeniMax, or wireless accelerometer SeniMax.

  Trigger by Wireless Strain Gauge (SeniMax):
  When triggered by a wireless strain gauge, the camera can capture heavy and overload vehicles on a bridge.

  Trigger by Accelerometer (SeniMax):
  When triggered by a wireless accelerometer, the camera can capture collisions or impacts against bridges by barges, ships, or over-height vehicles.
- **Camera Specifications :**
  Image resolution: 640 × 480, 320 × 240
  Data format: JPEG
  Pixels: 0.3 Mega
  Angle of view:
  90° (Default)
  170° / 150° / 120° / 60° / 45° / 30° / 15°