

SmartSwarm 341

Asset Integration Gateway



Features

- Configurable user business logic data processing & display engine
- Comprehensive data outputs via MQTT, email, SMS and a variety of other services and database connections
- Integrates data from WZZARD, WISE, ADAM & third party devices
- Integrates data from internet feeds
- Cellular or Ethernet connection to IIoT system
- Acts as LAN to WAN bridge for third party device connection
- Cellular (EMEA/NATAM support) and wired models available

Introduction

Seamlessly integrate data from diverse systems, devices and sensors into the IIoT

The SmartSwarm 341 IIoT gateway is aimed at owners of remote assets wishing to integrate data from their assets into IIoT applications like dashboarding, analytics or predictive maintenance. Data can be collected from a number of sources, including web feeds, databases and files, as well as from locally connected physical devices and sensors. SmartSwarm 341 includes an interface and manager for B+B's Wzzard wireless sensor platform that provides robust acquisition and transmission of sensor data without installing cables. For bulk I/O requirements where cabling is not an issue, it is also compatible with WISE and ADAM Ethernet connected I/O modules.

User Applications

SmartSwarm 341 offers flexible data acquisition, processing and handoff via an inbuilt Node-RED user application environment. Node-RED is a powerful, yet simple to use, application programming environment optimized for processing data streams. Users drag and drop function nodes to acquire, processes and output data, via an internal web server interface provided by the SmartSwarm 341. Crucially, the Node-RED environment is contained, meaning that any user error made in programming cannot crash the gateway, which will remain connected and available for remote management in order to correct errors without site visits. In addition to offering local data processing, the Node-RED environment is also able to create and serve local dashboards, providing a mechanism to serve summary data to engineers, managers or operational staff.

Specification

WZZARD RADIO - 802.15.4E, 2.4 GHZ

- **Number of Channels** 15
- **Channel Separation** 5 MHz
- **Channel Clear Frequency** 2405 + 5* (k-11) MHz
- **Modulation** IEEE 802.15.4 Direct Sequence Spread Spectrum (DSSS)
- **Raw Data Rate** 250 kbps
- **Range (25 °C, 50% RH, +2 dBi omni-directional antenna, antenna 2m)**

Indoor	100 m
Outdoor	300 m
Free Space	1200 m
- **Receiver Sensitivity** Packet Data Error Rate (PER) = 1% -93 dBm
- **Receiver Sensitivity** Packet Data Error Rate PER = 50% -95 dBm
- **Output Power** High Calibration Setting 8 dBm
- **(delivered to a 50 Ω load)** Low Calibration Setting 0 dBm

Ports, LEDs, Antennas

- **(2) Ethernet Ports** RJ45, 10/100 Mbps
- **SIM** (2) Mini SIM, 2FF, 1 supported (rear panel)
- **LED Indicators** PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
- **Wzzard** R-SMA connector
- **RST** RESET button (rear panel)
- ***Optional-3x ANT-ANT, DIV** SMA connectors
- **SD** Available for file storage from Node-RED applications (currently unsupported)
- **(USB)**

Power

- ***Optional - Power Supply** 10 – 60 V_{DC} (2-Way Molex connector)
- **Power Consumption** Idle: 2.5 W
Average: 4 W
Peak: 11 W
Sleep Mode: 10mW

Environmental

- **Temperature Range** Operating: -40 to +75 °C
Storage: -40 to +85 °C
- **Temperature Range LTE450** Operating: -20 to +60 °C
Storage: -40 to +85 °C
- **Humidity** Operating: 0 to 95 %
Storage (Non-condensing): 0 to 95 %
-35 °C
- **Cold Start**
- **Operating Altitude** 2000 m / 70 kPa
- **Ingress Protection Rating** IP30

Mechanical

- **Metal case with metal DIN rail**
- **Dimensions** 55 x 97 x 125 mm (2.17 x 3.82 x 4.9)
- **Weight** 375 g

Industry Certifications & Approvals

- **Radio for general LTE** ETSI EN 301 511 v9.0.2, ETSI EN 301 908-1 v5.2.1, ETSI EN 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1
- **Emissions/ Immunity** IEC 61000-6-2:2005, ETSI EN 301 489-1 v1.9.2, EN 55022:2010
- **Safety** EN 60950-1:06 ed.2 (not Hazardous Locations), EN 62311:2008
- **Vehicle** E8
- **Environmental** RoHS, RoHS2, REACH, WEEE

Ordering Information

- **BB-SG30000520-41** 2 Ethernet, Dust (no power supply)
- **BB-SG30000525-41** 2 Ethernet, Dust, International Power Supply
- **BB-SG30300520-41** 2 Ethernet, LTE-EMEA, Dust (no power supply)
- **BB-SG30300525-41** 2 Ethernet, LTE-EMEA, Dust, International Power Supply
- **BB-SG30500520-41** 2 Ethernet, LTE-NATAM, Dust (no power supply)