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 IoT

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+Bs 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 (delivered to a 50 Ω load)	High Calibration Setting	8 dBm
	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
(USB)	(currently unsupported)

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 %
Cold Start	-35 °C
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)

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