SmartSwarm 341

ASSET INTEGRATION GATEWAY



Powered by

ADVANTECH



Seamlessly integrate data from diverse systems, devices and sensors into the Industrial Internet of Things

The SmartSwarm 341 IIoT gateway is aimed at owners and operators of remote assets wishing to integrate data from the asset into IIoT applications such as 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 also includes an interface and manager for B+Bs Wzzard wireless sensor platform providing robust acquisition and transmission of asset sensor data without the expense or time involved in 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 applications environment. Node-RED is a powerful, yet simple to use, applications programming environment optimized for processing data streams. Users drag and drop function nodes to acquire, process and output data, via an internal web server interface provided by the SmartSwarm 341. Crucially, the Node-RED environment is containerized, 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 the error without the expense of a site visit.

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.

FEATURES & BENEFITS

- + 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

CONNECTIVITY AND SECURITY

SmartSwarm 341 connects to enterprise applications either via a local Ethernet WAN, or wirelessly via an internal cellular modem, and includes the ability to switch between these connections for redundancy purposes. In addition, the gateway provides a second Ethernet port intended to provide a local LAN connection, and bridges traffic from this LAN to its active WAN connection. As such it may be used as a cellular modem to allow any local Ethernet enabled device to obtain an outbound WAN connection. All inbound WAN connections are prohibited by default via an internal firewall and all enterprise communications can be via VPN with device authentication and message encryption, significantly increasing the security of the device.

CONFIGURATION

Configuration is achieved via the SmartWorx Hub remote configuration management tool. This provides access to all of the configurable parameters, and also allows the download of additional Node-RED nodes to enrich the base installed palette without the need to visit the site.

ORDERING INFORMATION

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

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SPECIFICATIONS

CELLULAR	MODULE PAR	AMETERS			
	SG303	series - EMEA	5	6G305 series - NATAM	
LTE	Supported freq	ops (DL) / 50 Mbps (UL) juencies: 2100/2600 MHz	Support	100 Mbps (DL) / 50 Mbps (UL) ed frequencies: //850/AWS (1700/2100)/1900 MHz	
WCDMA	Bit rate 42.0 M Supported freq 900/1800/2100	uencies:	Bit rate 42.0 Mbps (DL) / 5.76 Mbps (UL) Supported frequencies: 850/AWS (1700/2100)/1900 MHz		
GPRS/EDGE	Bit rate 237 kb Supported freq 900/1800 MHz	os (DL) / 59.2 kbps (UL) Bit rate 23 uencies: Supported		236 kbps (DL) / 59.2 kbps (UL) ed frequencies:)/1800/1900 MHz	
WZZARD R	ADIO - 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 Ra	ate	250 kbps			
Range (25 °C, 50% RH, +2 dBi omni-directional antenna, antenna 2m)		Indoor		100 m 300 m	
		Outdoor		1200 m	
		Free Space		1200 11	
Receiver Sensitivity		Packet Data Error Rate (PER) = 1%		-93 dBm	
Receiver Sensitivity		Packet Data Error Rate PER = 50%		-95 dBm	
Output Powe	er (delivered	High Calibration Setting		8 dBm	
to a 50 Ω loa	d)	Low Calibration Setting		0 dBm	
PORTS, LEI	OS, ANTENNA	S			
(2) Ethernet	Ports	RJ45, 10/100 Mbps			
SIM		(2) Mini SIM, 2FF, 1 supported (rear panel)			
LED Indicato	rs	PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT			
Wzzard		R-SMA connector			
RST		RESET button (rear pa	anel)		
*Optional - 3 DIV	x ANT - ANT,	SMA connectors			
SD		Available for file storage from Node-RED applications			
(USB)		(currently unsupported)			

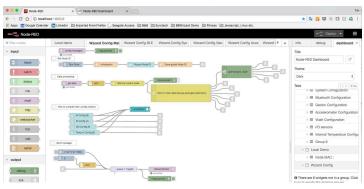
POWER

*Optional - Power Supply		10 – 60 VDC (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					
MECHANICAL					
MECHANICAL Metal case with met	al DIN rail				
	al DIN rail	55 x 97 x 125 mm			
Metal case with met	al DIN rail	55 x 97 x 125 mm 375 g			
Metal case with met Dimensions		375 g			
Metal case with met Dimensions Weight	ICATIONS ETSI EN	375 g			
Metal case with met Dimensions Weight INDUSTRY CERTIF Radio for general	ICATIONS ETSI EN ETSI EN	375 g 301 511 v9.0.2, ETSI EN 301 908–1 v5.2.1, 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1 00-6-2:2005, ETSI EN 301 489-1 v1.9.2,			
Metal case with met Dimensions Weight INDUSTRY CERTIF Radio for general LTE Emissions/	ICATIONS ETSI EN ETSI EN IEC 610 EN 5502	375 g 3 APPROVALS 301 511 v9.0.2, ETSI EN 301 908–1 v5.2.1, 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1 00-6-2:2005, ETSI EN 301 489-1 v1.9.2, 2:2010 i0-1:06 ed.2 (not Hazardous Locations),			
Metal case with met Dimensions Weight INDUSTRY CERTIF Radio for general LTE Emissions/ Immunity	ICATIONS ETSI EN ETSI EN IEC 6100 EN 5502 EN 6095	375 g 3 APPROVALS 301 511 v9.0.2, ETSI EN 301 908–1 v5.2.1, 301 908-2 v5.2.1, ETSI EN 301 908-13 v5.2.1 00-6-2:2005, ETSI EN 301 489-1 v1.9.2, 2:2010 i0-1:06 ed.2 (not Hazardous Locations),			



NodeRED - at-a-glance dashboards

* Optional items sold separately.



NodeRED - easy drag and drop configuration

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