EWS SWITCH

Environmental IoT Device

Overview

The EWS Switch presents a powerful yet compact multi-communication enabled IoT device designed specifically for remote environmental monitoring. The name *Switch* is derived from the ability to interchange between Satellite and 4G LTE communication types allowing important data to be logged and reliably transmitted from anywhere. The versatile device allows connection to all standard sensor types offering the ability to use across a wide variety of monitoring applications. The ease of use means that field installations can be completed in a fraction of the time of other systems offering significant cost savings and minimising risk by reducing time in the field.

Features

- Multi-Communications options; Send data via Satellite (Iridium, Swarm, Myriota) or 4GLTE.
- Reads SDI12, Modbus, 4-20mA, Pulse sensor protocols.
- Relay out.
- Internal rechargeable battery pack or long-life non-reachargeable options.
- Input for external battery pack or direct to solar (Internal solar regulator).
- Ultra-Low power draw with internal battery backup.
- Configure using Bluetooth mobile app (available on Apple and Android).
- Remotely change settings with two-way communications including via Iridium.
- Compact form factor 45mm x 55mm x 120mm.
- Rugged and robust for harsh environments - IP68.
- Out-of- Cycle alarm transmission capable.
- Encoding scheme for compression of data packet size.
- Automatic data upload directly to Orion Cloud.
- Internal storage of up to 260,000 events.

Benefits

- Connects to all standard environmental and geotehcnical sensors.
- Extremely versatile for a range of remote monitoring applications.
- Compact and discreet, reducing installation time and footprint.
- Designed and Manufactured in Australia.
- Rugged and robust - deigned for harsh remote environments.
- Plug and play setup onsite.
- Very straightforward and scalable for fast deployments and large monitoring roll outs.
- Programmable and powerful for more complex monitoring applications.
- Perfect for new and retrofit instrumentation projects.

SPECIFICATIONS

MECHANICAL

Size	Width	55 mm	Length	120mm
	Height	45 mm		
Weight		200 g		

ENVIRONMENTAL

Operating Temperature	-20	-	60 °C	
Storage Temperature	-40	-	65 °C	
Humidity	5	-	95 % Rel	

POWER

External Power Supply Input				
Input Voltage	12		24 V	
Input Current	700 mA			
Internal Battery (Rechargeable)				
Chemistry	Lion			
Terminal Voltage	6.8	7.8	8.4 V	
Capacity	1.8/4.8 Ahr			
Internal Battery (Non-rechargeable)				
Chemistry	LiMnO2			
Terminal Voltage	6.8	7.8	8.4 V	
Capacity 4.8 Ahr				
Sensor Power Output				
Output Voltage	11	12	13 V	
Output Current	500 mA			
Digital Output				
Output Voltage	11	12	13	
Output Current	500 mA			

STORAGE

Non-volatile-Log		
Size	4 MB	
Events	256000 Events	

CLOCK

RTC		
Accuracy (-10 to 70°C)	20	70 ppm
Network Time Sync Support		
Supported Networks	Iridium	Cellular

EXTERNAL SENSOR INPUTS

Serial - RS485 Modbus RTU		
Baud Rate	300	230400 Baud
Parity	N/E/O	
Serial – SDI12		
Analogue – 4-20mA	(2)	
Current Loop		
Accuracy	0.5 % f.s.	
Digital – Pulse Counter	(2)	
Input Voltage	1	5 V
Frequency	3 kHz	

SPECIFICATIONS

Specifications subject to change without notice.

BUILT-IN SENSOR CHANNELS

Barometer – Pressure

Range	10	1200 mbar
Accuracy 25°C, 750 mba	-1.5	+1.5 mbar

Barometer – Temperature

Range	-40	85 °C
Accuracy	-0.8	+0.8 °C

Battery Voltage

Supply Voltage

Reference Voltage

Radio Signal Strength

Microprocessor

Temperature

TELEMETRY RADIO SUPPORT

Iridium

Protocols	Short Burst Data
Coverage	Worldwide

4G Cellular LTE-M/NB-IOT

Protocols	MQTT
Email	
Network Support	Telstra (Aus) and most major networks globally
Coverage	4 million Sqr km

Myriota

Protocol	AWS Lambda
Coverage	Australia Wide

LoRaWAN

Range to Gateway	10 Km

BLUETOOTH SUPPORT

Bluetooth Standard	5.0
Data Rate	2.5 kbps