FREEWAVE

IIoT Weather Station

The IIoT Weather Station is a ready-to-deploy cellular or satellite-connected weather monitoring solution. The unit comes pre-configured with integrated industrial-grade sensors and low-cost satellite communications providing global connectivity and reliability.

To make things easy, the Swarm Satellite fees are included in the annual Data Platform subscription cost. Options ranging from simple OEM Data Broker message routing through to full dashboard and analytics. Using the IIoT Gateway couldn't be easier, simply deploy the unit and data will flow.

Swarm provides affordable satellite connectivity for IoT applications, particularly in remote regions that lack reliable access to the Internet.

IIoT Gateway Satellite mounted on rear of panel

Wind Speed & Direction Sensor

12W Solar Panel

Temperature, Humidity & Barometric Pressure Sensor

High Quality Aluminium 5052-H32

Multiple mount points on base and rear

SWARM
Certified Product

IIoT Weather Station Specifications

MODELS	BDL-WS-S2-1.x.x
Model Reference	IIoT Weather Station Satellite (Swarm)
Satellite Communications	SWARM TILE01 137-138MHz Downlink / 148-150MHz Uplink
Processors & Memory	Arm® Cortex®-M4 NOR Memory IC 32Mb, SPI - Quad I/O
Onboard Sensors	GPS, Power, Temperature, Humidity, Barometric Pressure, Wind Speed & Direction
GPS Module	Sierra Wireless XM1210, TCXO. GPS+Glonass, GPS+BeiDou, GPS+Galileo. Signal used for both position information and accurate time sync for data records.
Charge Circuit & Battery	Tracking onboard battery voltage, along with the status output of onboard solar charging circuit in order to give a clear indication of how well the internal battery is charging.
Temperature, Humidity & Barometric Pressure	Resolution: Temperature: 0.01^{o}C, Humidity: 1%, Pressure: 0.1 hpa Accuracy: Temperature: 0.3^{o}C, Humidity: 3%, Pressure: 0.5 hpa
Wind Speed & Direction	Resolution: Speed: 0.01 m/s, Direction: 0.1 deg, Max Speed: 60 m/s Ultrasonic Sensor Accuracy: Speed: 0.5 m/s, Direction: 3 deg
Bluetooth Host	U-BLOX NINA B3, v5.0 (Bluetooth low energy) nRF52840
Power Supply	Built-in 6000mAH Li-polymer Battery Charging Voltage: 4.2V, Rated Voltage: 3.7V, UVLO at 3.4V
Solar Panel	Epoxy encapsulated Monocrystaline, 12W Nominal output
DC Input & Charging	18~30VDC, 2A Max Current, MPPT Charger (19.4Vmp), Optional 12v DC Battery Input
CONNECTORS	
Antenna - Satellite	Female SMA, Swarm Antenna
Antenna - GPS	Female SMA, GPS/GNSS Whip Antenna
Antenna - Bluetooth	Female SMA, Bluetooth Whip Antenna
DC Input	IP68 Circular Connector Socket, paired with solar panel cable
PHYSICAL DESCRIPTION	
Assembly Closed (L x W x H)	448x260x210mm (without antenna), 545x260x210mm (with antenna)
Assembly at 45° (L x W x H)	448x260x393mm (without antenna), 545x260x393mm (with antenna)
Weight (full assembly + antenna)	4.6kg excluding packaging
ENVIRONMENTAL	
Operating / Storage Temperature	-20℃ to 60℃ / -20℃ to 85℃