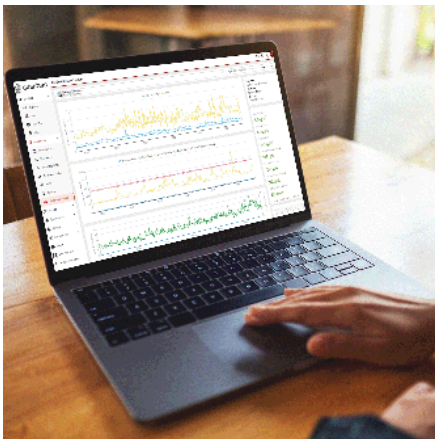# Swarm V2.1 Vibration Monitoring System

Add-on module for Cirrus Research's Quantum Outdoor Environmental monitor

Cirrus Research has chosen to partner with Omnidots to provide you with the best vibration monitoring system for your needs.

The SWARM vibration monitor is the most efficient and qualitative SBR/DIN vibration monitor available. The installation of the SWARM vibration monitor is quick and easy; even without prior knowledge, you can install the SWARM within two minutes. The Quantum Cloud platform from Cirrus Research interfaces with the Swarm to allow you to see your measurement data 24/7, from all over the world on your computer, smartphone or tablet.

Customers use the SWARM vibration monitor worldwide in construction and infrastructure and also to measure vibrations of other nature, such as vibrations at windmills, vibrations at data centres and vibrations from heavy traffic. You can use it to measure the potential damage to structures and to measure nuisance for people in buildings.

The SWARM is IP65 rated, complies with industry standards and measures according to the latest and relevant standards and guidelines.

HIGH-QUALITY, ACCURATE VIBRATION MEASUREMENTS

MEETS INDUSTRY STANDARDS

AUTOMATIC ALARMS AND REPORTS

Notifications by e-mail and SMS

1 SCREW MOUNTING

AUTO AXIS ALIGNMENT

COMPACT & LIGHTWEIGHT

POWER CONNECTOR

Battery Pack
Mains Electricity (AC Power)
Solar Panel

DESIGNED FOR LARGE-SCALE MONITORING

Applications

- Construction & demolition
- Noise nuisance
- Transport
- Data centres
- Wind turbines
- Mining & quarrying
- Environmental
- Infrastructure

Product specifications

Data Acquisition

Direction	X, Y, Z
Range frequency	0.5 - 250 Hz
Range velocity	±50 mm/s (±2 in/s)
Range acceleration	±4 g
Measurements	PPV, PPA, PVS, VDV, Velocity traces
Noise (RMS)	50 um/s at 250 Hz BW (2 mil/s)
Resolution	1 um/s (0.04 mil/s)
Dominant frequency determination	FFT
Applications	Construction (metric)

GPS Location

Sensor type	GPS receiver
Accuracy	10 meter CEP (33 ft CEP)

Sensor Tilt

Maximum velocity level	50 mm/s (2 in/s)

Logging Interval Time

Range	2 - 6000 seconds

Alarm Trigger Level

Range (PPV)	0.2 - 50 mm/s (0.008 - 2 in/s)

Applicable Standards

SBR-A / DIN4150-3 / BS7385 / Circulaire du '86 / ISEE (USBM RI 8507 & OSMRE) / SN 640 312a / IN 1226

Communication

Wireless	WiFi, 4G/LTE
Modem	Network 4G/LTE

Internal Memory

Storage records	~ 1 work week storage of log

Ambient Condition

Ingress protection rating	IP65
Operating temperature range	-10°C to 70°C (14°F to 158°F)
Storage temperature range	-30°C to 90°C (-22F° to 194°F)

Power Supply

Power source	External
Minimal power supply	5V USB power (min. 4.5V, max. 5.5V), min. 1A (5W)
Power consumption	25mW sleeping, 1W idle, 3W active, 5W max

Calibration

Recommended biennial (every two years)*
Certified calibration by a Omnidots certified facility
*When used according to product manual and within ambient specifications.

Dimensions

Dimensions	109 x 130 x 45 mm (4.29 x 5.12 x 1.77 inch)
Weight	260 gr (9.17 oz)

Sensor Positioning

Mounting	1 screw and 1 plug included
Auto levelling; Auto axes alignment	Automatic adjustment by gravity