



ROYAL BOTANIC GARDEN, SYDNEY



### 3.3.1 Environmental Noise (Sensor)

#### Purpose

Amid the range of environmental pollutants faced by the public, urban noise is the most widely recognised for its contribution to several health-related issues. For many years, expensive monitoring equipment, a scarcity of appropriate technicians and an under-appreciation of the risks posed by urban noise meant that no known municipality undertook systematic noise management procedures.

Smart City advances, however, offer new opportunities to improve the experience of the public in this space. The SMART.NODE™ MTM hosts a range of sensors designed to monitor noise from road traffic, nightlife and other outdoor activities. Using the e<sup>3</sup>, authorities can then analyse this data to anticipate public demands and take action in problematic areas.

For reference, sound pressure is measured in decibels (dB). Refrigerators typically run at around 40dB, while heavy traffic typically reaches 90dB. The human threshold of discomfort is measured at 120dB.

#### Equipment List

Devices used to collect environmental noise data are as follows:

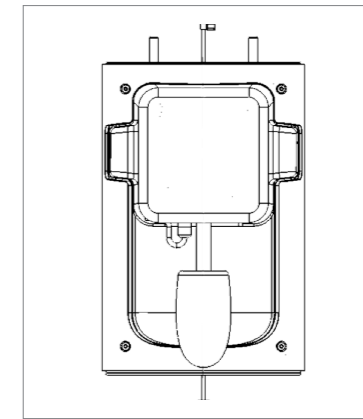
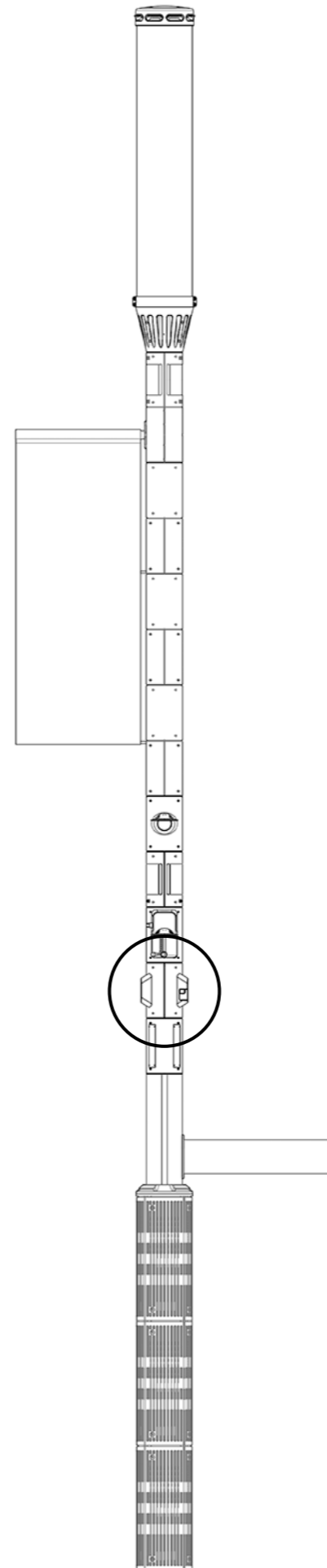
- Libelium NLS
- Libelium Waspnote Smart City Pro

#### Control System

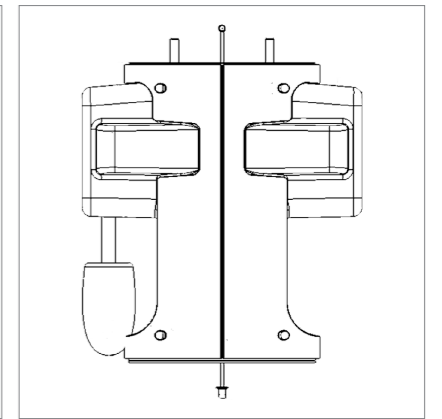
Environmental noise data is visualised, controlled and analysed through the e<sup>3</sup> CMS platform.

#### Performance Data

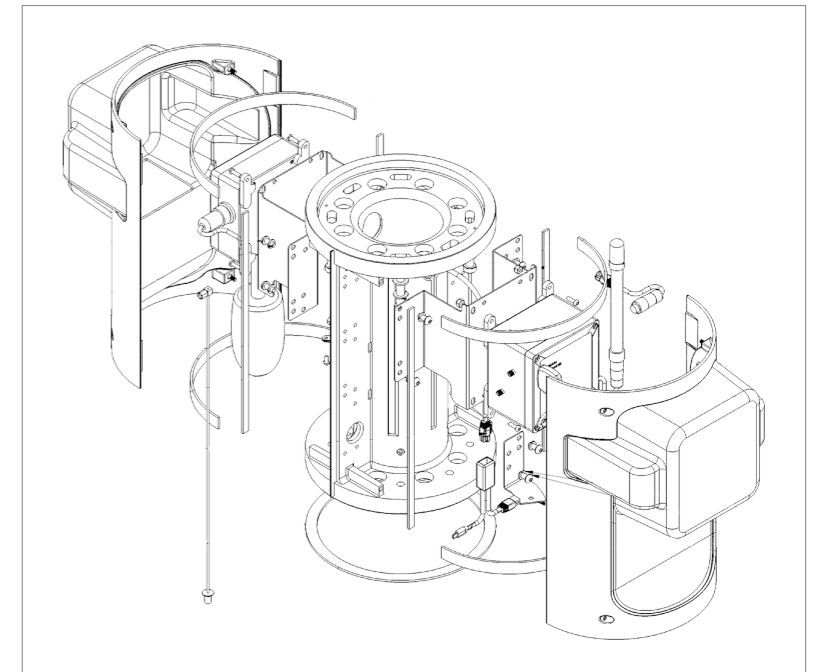
For detailed information please refer to the product specification datasheet.



ENVIRONMENTAL NOISE (SENSOR)  
SIDE VIEW



ENVIRONMENTAL NOISE (SENSOR)  
FRONT VIEW



ENVIRONMENTAL NOISE (SENSOR) EXPLODED VIEW

#### Environmental Noise Access Points Currently Accommodated by SMART.NODE™

The noise / sound level sensor communicates via the Waspnote and CMS platform allow for the remote collection of data from the sound level sensor probe. This data is received at changeable interval over a 24-hour period.

Brand	Model	Specifications Summary	
Libelium	Noise/Sound Level Sensor	Pwr Consumption	3.3vDC @ 200mA
		Output	Range of Sensor 50 dBA to 100 dBA Measurement A-weighting
		Dimensions	124(L) x 124(H) x 85(D)
	Communication	Via Waspnote	
	Waspnote Smart City Pro	Pwr Consumption	3.3vDC @ 400mA PoE+ (802.3at)
		Output	Data Sensors
Dimensions		124(L) x 124(H) x 85(D)	
		Communication	802.15.4, 868 MHz, 900 MHz, Wi-Fi, 4G, Sigfox and LoRaWAN
<b>STILL IN CMS INTEGRATION</b>			

THE TECHNOLOGY ACCOMMODATED BY THE SMART.NODE™ IS CONTINUOUSLY EVOLVING. ENE.HUB CAN INVESTIGATE THE ACCOMMODATION OF ADDITIONAL SMART CITY SERVICE DEVICES.