

XNode



무선 개인 네트워크(WPAN) 및 저전력 광대역 네트워크(LPWAN) 기반 IoT 커넥티비티 응용 실습 장비

메시 네트워크 방식을 이용 무선제어 및 모니터링 등의 광범위한 영역에 다량으로 사용이 가능하며, 넓은 범위의 통신이 가능

Basic Module의 GPS, IR THERMO, IMU, PIR 등의 센서 제공

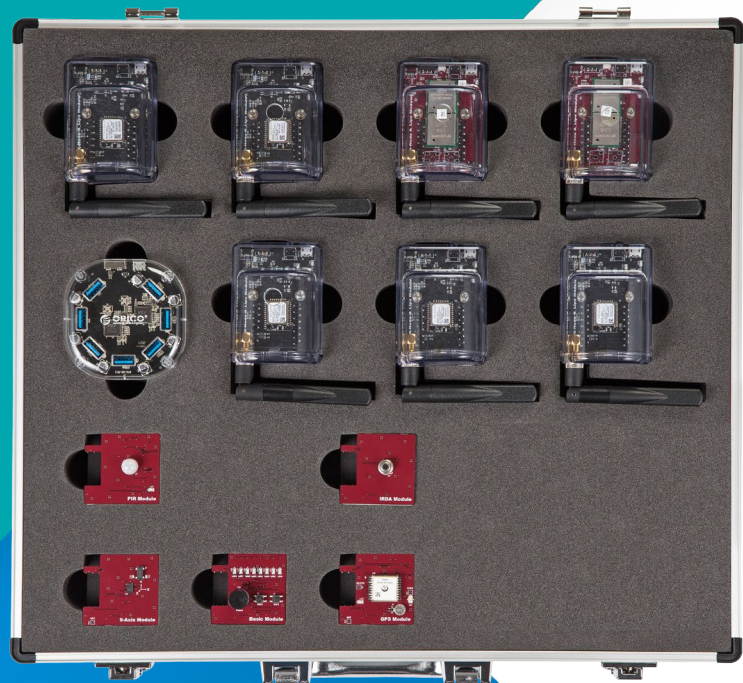
센서 노드는 LoRa/Sigfox/Wi-Fi/Bluetooth(노드 A) 또는 Zigbee Pro/Bluetooth(노드 B) 중 선택 가능

센서 노드는 독립적으로 운영할 수 있도록 2100mA 배터리와 인디케이터용 LED 및 룩스 단위 기반의 빛 센서와 온습도 센서 기본 제공

센서 노드는 쉽고 간결하게 제어 프로그램을 작성할 수 있도록 인터프리터 방식의 파이썬3 지원

전문적인 응용 개발을 위해 Visual Studio Code 기반 공개용 통합개발환경 지원

파이썬 기반 센서 노드용 학습 콘텐츠 제공



소프트웨어 사양

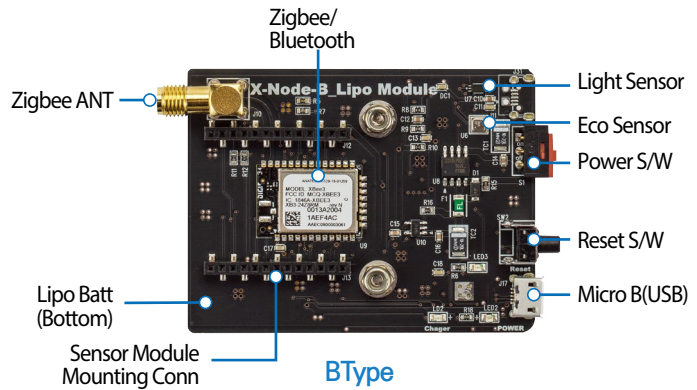
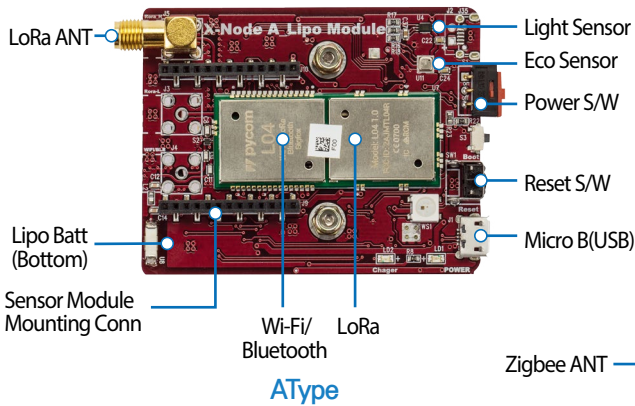
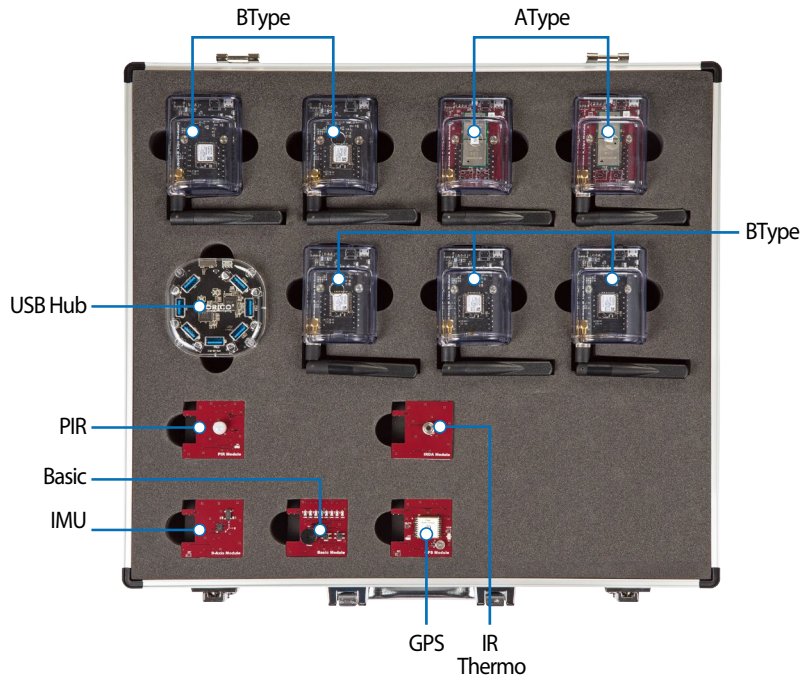
List	Specifications
Node A	MicroPython 3 (built in node)
	Soda IDE
	Configuration Software (compatible with Linux, OS X and Windows)
	Remote Terminal & Remote Desktop support
Pop Library	Output Object: RGB LED, Buzzer Input Object: Switch, PIR, Thermopile, 9Axis IMU, GPS
Node B	MicroPython 3 (built in node)
	Soda IDE
	Configuration Software (compatible with Linux, OS X and Windows)
	Remote Terminal & Remote Desktop support
Pop Library	Output Object: LED, Buzzer Input Object: Switch, PIR, Thermopile, 9Axis IMU, GPS

하드웨어 사양

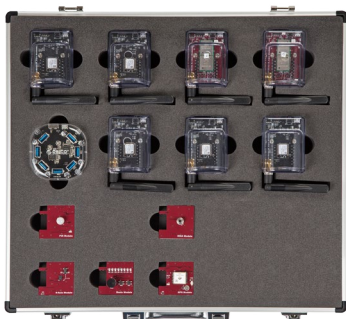
List	Specifications	
Node A (2EA)	RAM: 4MB	
	Flash Memory: 8MB	
	Interface: UART, SPI, I ² C, I ² S, ADC, PWM, GPIO	
	Indicator: RGB LED	
	Wi-Fi	802.11b/g/n Data Rate: 1Mbps to 72Mbps Transmit power: Up to +16dBm Receiver Sensitivity: -93 to -71 dBm
	Bluetooth	Bluetooth 4.2 BR/EDR BLE Range: 30M Data Rate: 1Mbps Sensitivity: -97dBm Output Power: 12dBm
	LoRa	Frequency: 900MHz Range: 10km Data Rate: 300kbps Sensitivity: -148dBm Output Power: 20dBm
	Sigfox	Frequency: 900MHz Range: 10km Data Rate: 100bps Output Power: 20dBm
	Light Sensor	Illuminance: 1 ~ 65535(lx) Interface: I ² C
	HUMIDITY & TEMPERATURE Sensor	Humidity Resolution: 12bit(0.04%RH), 8bit(0.7%RH) Humidity Accuracy: +-3%RH Temperature Resolution: 14bit(0.01C), 12bit(0.04C) Temperature Accuracy: +-4°C Interface: I ² C
Power	Micro USB B type(+5V) Expansion Connector (+5V) Li-Po Type 3.7V/2100mAh (1EA)	

하드웨어 사양

List	Specifications
Node B (5EA)	RAM: 128KB
	Flash Memory: 1MB
	Interface: UART, SPI, I ² C, ADC, PWM, GPIO
	Indicator: LED
	ZigBee 3.0 Frequency: 2.4GHz Range: Max 3200m (outdoor), Max 90m(indoor) Data rate: 250kbps Sensitivity: -103dBm Output Power: 19dBm Receiver Sensitivity: -100 dBm Bluetooth support
Expansion Module	Light Sensor Illuminance: 1 ~ 65535(lx) Interface: I ² C
	HUMIDITY & TEMPERATURE Sensor Humidity Resolution: 12bit(0.04%RH), 8bit(0.7%RH) Humidity Accuracy: +-3%RH Temperature Resolution: 14bit(0.01C), 12bit(0.04C) Temperature Accuracy: +-4°C Interface: I ² C
	Power Micro USB B type(+5V) Expansion Connector (+5V) Li-Po Type 3.7V/2100mAh (1EA)
	Basic Input Device: Tact Switch x 2EA(GPIO) output device: LED 8EA(I ² C) Actuator: Passive Buzzer(GPIO) Size: 46x44(mm)
	IMU Acceleration ranges: 2g/±4g/±8g/±16g Gyroscope ranges: ±125°/s to ±2000°/s Magnetic field range: ±1300uT(x-,y-axis), ±2500uT(z-axis) Interface: I ² C Size: 46x44(mm)
Expansion Module	PIR Sensing Range: 110° Spectral Response: 5 ~ 14 um I/O Interface: Digital Out Size: 46x44(mm)
	IR Themo Measurement resolution: 0.02°C Measure range: -40°C ~ +125°C Interface: I ² C Size: 46x44(mm)
	GPS Sensitivity: -165dBm Update Rate: up to 10Hz AGPS Support for Fast TTFF Consumption current(@3.3V) Acquisition: 25mA Typ Tracking: 20mA Typ Size : 46x44(mm)



구성품



Platform USB
1EA



Micro USB Cable
7EA



User Guide book
1EA