Descartes IoT Stock management

Hardware Specification

The **BIN001**, designed for inventory and stock management, combines **Bluetooth Low Energy (BLE)** and **NFC** technologies for seamless integration with TwinBin systems. Advertising at an optimal interval, the BIN001 provides efficient stock tracking and management within a range of **80 meters (approximately 262.47 feet)** in open-field conditions.

The device leverages BLE for continuous real-time communication with compatible readers and utilizes NFC for instant tag identification, enhancing operational accuracy and speed. This dual-technology approach ensures reliable and flexible performance, catering to various inventory management needs.

Built with durability and energy efficiency in mind, the BIN001's design supports extended operational lifetimes while maintaining reliable functionality. It is a cost-effective solution for industries requiring precise and dependable stock management, empowering businesses to optimize their inventory processes with advanced, user-friendly technology.

Images are indicative only; actual product may vary.

Tag Features

Name of the Product:	Descartes IoT Inventory tag

DESCARTES™

Model:	BIN001
Description:	Bluetooth Low Energy (BLE) tag used to monitor movement of goods and equipment. Each tag is made up of an PCBA equipped with a BLE module NINA B1 (nRF52832) and one lithium metal cell battery encased in a housing.
Battery:	One CR2477 Rated At 1000 mAh each.
Size:	1.1”L x 5.5”W x 0.87”H (30.mmL x 140.mmW x 22mmH)
Weight:	15 grams
Operational Temperature Range:	-20˚C to +85˚C
Power Consumption - Max:	TBD
Power Consumption - Sleep:	TBD
Operational Life Running:	Theoretical lifetime of >3 years.

Bluetooth

Bluetooth Module:	NINA-B1
Bluetooth Type:	Bluetooth Low Energy 5.0
Bluetooth Sensitivity:	-95dBm
Bluetooth Max Power Output:	+4dBm
Bluetooth Antenna:	+3.2dBi SMD Stamped metal Niche Antenna, Broadly Linear polarized
Frequency Supported:	2.4GHz ISM, 40 BLE Channels & Adv. Ch. No. 37, 38, 39
Range:	80 m (Environment between Reader and Tag dependent)
NFC:	NFC Passive antenna- Used to read Tag ID for identification.
NFC antenna frequency:	13.56MHz
NFC range:	up to 4cm

Transportation:	Meets IATA Dangerous Goods Regulations 2015-2016 57th Edition (UN3091) Less than 4 lithium metal cells encased in equipment. No declaration required Battery passed UN38.3 tests.
Transport:	Descartes IoT BLE Tags transmit periodic Bluetooth advertisements. This is permissible whilst in transport in most situations including air freight.

Certifications:

BIN001	Bluetooth	In process
	FCC	In process
	CE	In process
	CE safety testing	In process
	UN38	Passed See" MSDS CR coin"
	IP Rating	IPX0
	RoHS	