



Rotadura Needle

50 x 1 & 84 x 1 mm H9



The Rotadura Needle is engineered for embedding directly into tires during the manufacturing and vulcanization process, delivering performance that lasts the entire lifespan of the tire. Featuring a unique global ID to prevent counterfeiting, cloning, and theft, it supports comprehensive asset management. Thanks to its compact form factor and high-temperature tolerance (withstanding at least 200°C), this tag can also be embedded into other molded products, crates, or containers during production.

Widely used in tire logistics and inventory management, the tag facilitates production monitoring, end-to-end traceability, fleet access control, regulatory inspections, and motorsport management. By automating data collection across the entire tire lifecycle from manufacturing and warehousing to distribution, operational use, and retreading it empowers organizations to leverage big data to optimize processes, tailor tire usage to specific application requirements, and extend service life.

Highlights & Benefits

- ✓ Used for embedding in vehicle tires
- ✓ With high physical elasticity, pressure resistance, stretchability and bending.
- ✓ ETSI(865-868 MHz) and FCC(902-928 MHz) optional
- ✓ Support to international agreements, applicable to more countries.

Applications

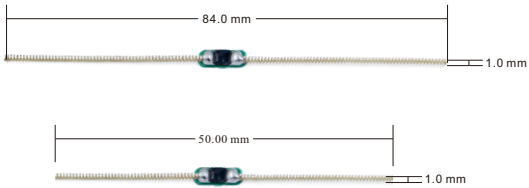
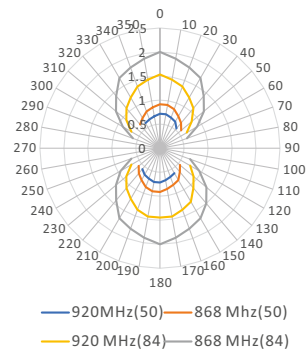
- ✓ Vehicle and truck management
- ✓ Tire anti cloning and brand protection
- ✓ Tire inventory tracking and anti theft



Technical Features

Model	RC9020
RFID Features	
Air Interface Protocol	EPC Class 1 Gen 2 / ISO 18000-63 Type C
Frequency	860-960 MHz
Chip Type	Alien Higgs 9
Memory	User - 688 bits; EPC - 96 bits(up to 496 bits)
Data Storage	> 10 years
Re-write	100,000 times
Read Range(2W ERP)	(50)FCC: > 0.9 m(3.0 ft) , on rubber; ETSI: > 0.7 m(2.3 ft) , on rubber (84)FCC: > 1.5 m(4.9 ft) , on rubber; ETSI: > 2.0 m(6.6 ft) , on rubber
Physical Features	
Dimension	50 x1 mm / 1.97 x 0.04 in 84 x1 mm / 3.31 x 0.04 in
Material	Steel wire
Weight	0.2 g(50 x1 mm)/0.4 g(84 x 1 mm)
Color	Green
Operating Temperature	-40°C to 85°C / -40°F to 185°F
Survival Temperature	-40°C to 200°C / -40°F to 392°F
Storage Condition	20±5°C, 50±10% RH, Store away from sunlight
IP Rate	IP68, test for 5 hours at 1m deep water
Other Features	
Installation	Insert
Customization	Encoding, Design, etc.
Package	100 pcs / bag, 100 bags / box(50 x 1mm) 2,000 pcs / bag, 6 bags / box(84 x 1 mm)

Radiation Pattern



PS: The performance is theoretical values in the lab and the actual effect depends on the specific applications.



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