



## Sensor Inlays and Tags

### Product Range

With a growing selection of antenna choices and sensor ICs, SMARTRAC's sensor tag and inlay family offers state-of-the-art products with great flexibility to accurately measure moisture and temperature conditions in industrial, healthcare and many other applications.

Sensor inlays and tags are passive UHF inlays equipped with RFMicron's Magnus® IC family. These RFID sensor inlays offer great performance, and are a perfect choice where moisture and temperature detection is an important requirement. Their specific antenna design acts as a resistor/inductor/capacitor (RLC) tuned circuit to enable an antenna to sense its environment. The antenna converts environmental data into an impedance change, and the sensor tag IC translates this into a sensor code, as it dynamically matches antenna impedance to die impedance.

These single-chip sensor inlay and tag solutions are cost-efficient and easy to implement, and work on different surface materials ranging from textiles to metal parts to construction materials. They can be deployed where active or semi-active sensors are not practical, and involve no battery maintenance, costs or problems with product lifetime or recycling. Delivery formats are dry and wet to suit all converting-industry needs.

SMARTRAC's operations are certified to ISO 9001:2008 Quality Management System standards and ISO 14001:2004 Environmental Management System standards.

#### Overview

##### Operating Frequency

860 - 960 MHz  
(ETSI & FCC band)

##### International Standards






▶ EPC Class 1 Gen 2 v.2.0.0  
ISO 18000-6C

##### Typical End-user Areas

- ▶ Automotive
- ▶ Construction
- ▶ Healthcare
- ▶ Liquid packaging
- ▶ Cold chain management
- ▶ ... and many more.

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Product	Product Name	IC	Memory	Antenna & Die-cut Size
	<b>Sensor DogBone</b> ETSI & FCC band	RFMicron Magnus®S2	64bit unique TID + 128bit EPC + 144bit User memory	89 x 24 mm / 3.5 x 0.9 in'' 97 x 27 mm / 3.8 x 1.1 in''
	<b>Sensor Tadpole</b> ETSI & FCC band	RFMicron Magnus®S2	64 bit unique TID + 128 bit EPC + 144 bit user memory	Product Size: (L x W x H) 21.5 x 84.0 x 2.4 mm / 0.8 x 3.3 x 0.1 in
	<b>Sensor Patch</b> ETSI band	RFMicron Magnus®S2	64 bit unique TID + 128 bit EPC + 144 bit user memory	102 x 8.62mm / 4.0 x 0.4''
	FCC band			105 x 11.62mm / 4.1 x 0.5'' 97 x 8.62 mm / 3.8 x 0.3'' 100 x 11.62 mm / 3.9 x 0.5''
	<b>Sensor Temperature DogBone</b> ETSI & FCC band	RFMicron Magnus®S3	64 bit unique TID + 128 bit EPC + 176 bit user memory	89 x 24mm / 3.5 x 0.9'' 97 x 27mm / 3.8 x 1.1''

Additional memory, protocol and product configurations are available upon request.  
Note: Pictures are for illustration only and are not to scale.

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