

IT70 Secure Passive RFID Tag

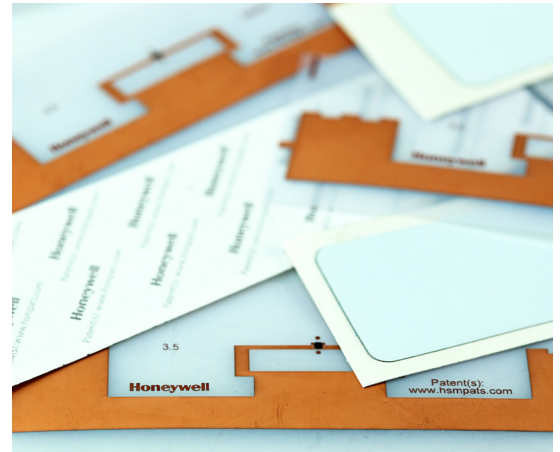
High Security, High Performance
Passive RFID Tag for Automotive Applications

The Honeywell IT70 RFID tag is a fully passive windshield tag designed for automotive applications that benefit from the highest levels of security. Unlike most common RFID tags, the IT70 cannot be cloned, it cannot be read by unauthorized parties, and data transmissions are fully encrypted. It provides organizations with peace of mind that no unauthorized use of the tags will occur. Vehicle owners have assurance that only the issuing authorities will be able to read the tags.

The IT70 is the ideal tag to use for highway tolling applications, electronic vehicle registration, and vehicle access and payment. It can be read at ranges up to and exceeding 10 meters. The optimized cryptographic engine built into the IT70 enables it to perform AES-128 functions three times faster than competitive tags, enabling readers to monitor multiple lanes of high speed traffic with vehicles travelling at 160 kph (100 mph) or higher.

With up to six access keys, the IT70 may be used in ways other tags can't. It can be used by multiple organizations or departments, each with its own access key and own memory space. Each key can be assigned its own unique privileges according to the requirements of the application. The IT70 supports cryptographic encrypted and protected writing of data to the tag, as well as cryptographic encrypted and protected reading, so that each authorized user can be confident data is safe throughout the entire transaction process.

Being a fully passive RFID tag, once the IT70 is applied to a vehicle windshield, it requires no further maintenance. The IT70 is designed to withstand conditions ranging from tropical deserts to polar tundras, smooth sailing down modern highways or bouncing over the roughest country roads. The lifecycle of the IT70 tag is likely to outlast the lifecycle of the vehicle it is applied to.



The IT70 RFID tag enables organizations to realize the efficiencies of using RFID for vehicle identification without worry of counterfeiting, spoofing, or exposing customer data to unauthorized actors.

FEATURES & BENEFITS



UHF RFID windshield tag is designed for automotive applications such as electronic toll collection, electronic vehicle registration, and vehicle access and payment.



The most secure, fully passive RFID tag available today, provides two-way authentication and data security, up to six access keys with fully configurable privileges.



Highly optimized performance enables high speed applications while using full cryptographic functionality.



Fully standards compliant. Implements ISO 18000-63, GS1 EPC Gen 2 Version 2 RFID standards and ISO 29167-1, ISO 29176-10 Rev 0 and Rev 1, and ISO 29167-13 security standards.



Fully passive RFID means no battery costs and no maintenance, making the IT70 an easy, economical, and worry-free solution for all vehicle identification requirements.

IT70 Secure Passive RFID Tag Technical Specifications

RFID		PHYSICAL CHARACTERISTICS	
STANDARDS	GS1 EPC Class 1 Gen2 Version 2, ISO 18000-63	MOUNTING	Pressure sensitive adhesive (mounts to inside of windshield)
FREQUENCY	860 MHz to 870 MHz and 902 MHz to 928MHz	DIMENSIONS	92 mm x 24 mm x 1.5 mm (3.6 in x 0.95 in x 0.06 in)
SENSITIVITY	-17 dBm or better in designated frequency bands	WEIGHT	<2 grams (<0.07 oz)
ANTENNA	1 dBi linear (along long axis of the tag)	ENVIRONMENTAL	
SECURITY		OPERATING TEMPERATURE	-40 °C to 85 °C [-40 °F to 185 °F] at 5 %RH to 95 %RH
CRYPTOGRAPHIC STANDARDS	ISO 29167-1, ISO 29167-10 (rev. 0 and rev. 1), ISO 29167-13	STORAGE TEMPERATURE INSTALLED	-50 °C to 100 °C [-58 °F to 212 °F]
CYPHERS	AES-128 or GRAIN128A	STORAGE TEMPERATURE WAREHOUSE	-40 °C to 85 °C [-40 °F to 185 °F] at 5 %RH to 95 %RH for up to 48hrs Nine months storage at 23 °C ±10 °C [73 °F ± 18 °F]
FUNCTIONS	Anonymity, tag authentication, interrogator authentication, message authentication, message encryption, untraceable, key update	VIBRATION	MIL-STD-810-G, Method 514.5
ACCESS KEYS	2 or 6	UV RESISTANCE	UL746C
PRIVILEGES ASSIGNABLE TO KEYS	<ul style="list-style-type: none"> • Read private memory • Write lower or higher numerical value • Write arbitrary value • Lock private or public memory • Use AES-128 or GRAIN128A cypher • Hide or unhide traceable information • Update keys • Hierarchical key update 		
PRNG	NIST SP 800-22 random number generator		
COUNTER MEASURES	Protection against differential power attacks		
MEMORY			
CONFIGURATIONS	<ul style="list-style-type: none"> • 1792 bits user memory with 2 crypto keys • 1280 bits user memory with 6 crypto keys 		
SEGMENTS	3 – can be public or private (key access)		

For more information

www.honeywellaidc.com

Honeywell Safety and Productivity Solutions

9680 Old Bailes Road
Fort Mill, SC 29707
honeywell.com

IT70 Datasheet | A | 09/17
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