



IDentity Title 21 Transponder

Ultra High Frequency 902-928 MHz
Electronic Toll Collection/Traffic Management Systems

FEATURES

- Caltrans Title 21 standards compliant
Provides compatibility with other AVI subsystems based on this standard
- Excellent communication performance
Transponder is readable with an accuracy level in excess of 99.6% at vehicle speeds greater than 100 mph
- Transaction notification capable
Optional buzzer can be used to indicate a successful tag read
- Agency programmable
Transponder data programmable to customer's specification, including unique ID and vehicle classification

Overview

The IDentity Title 21 transponder is a small radio frequency identification (RFID) device designed for Sirit's Electronic Toll Collection and advanced Traffic Management Systems. For flexibility, there are two form factors of this transponder - a small, interior mounted windshield tag and a ruggedized exterior mounted license plate tag. The interior windshield tag is powered by a unit enclosed battery or replaceable CR2450 coin cell battery allowing the user to simply swap out the battery while maintaining the initial investment in the tag hardware. Each transponder is RF-programmable allowing a unique ID and vehicle classification to be programmed to customer's specifications.




By using either form of the IDentity Title 21 transponder, tedious lineups, toll delays and cash handling can be substantially reduced.

How It Works

Sirit's IDentity Title 21 transponder has a built-in radio frequency (RF) detector, RF demodulator, antenna, internal battery and microcontroller. The transponder responds to a signal from the reader by reflecting and modulating the reader's RF signal. Once activated, the transponder returns a pre-programmed code to the overhead mounted reader system antenna. Once the AVI host computer receives the code, it searches its database for the transponder's identity and subsequently grants toll way access or other privileges as specified in the application software.

Identity Title 21 Transponder



Performance Characteristics		
Operating Frequency:	902 - 928 MHz	
Working Range:	Up to 6.4 m (21.0 ft.) from overhead mounted antenna	
Data Rate/Modulation:	Reader to tag: 300 kbps Manchester encoded (AM) Tag to reader: 300 kbps (FSK)	
Standards Compliance:	Conforms to Caltrans Title 21 standards	
Physical Characteristics		
Dimensions (LxWxD):	Windshield Tag - 8.3 x 9.5 x 1.37 cm (3.25 x 3.75 x .54 in.) Windshield Tag w/Replaceable Battery - 8.3 x 9.5 x 1.37 cm (3.25 x 3.75 x .54 in.) License Plate Tag - 20.9 x 4.3 x 2.8 cm (8.23 x 1.69 x 1.10 in.)	
Weight:	Windshield Tag - 78 g (2.75 oz.) Windshield Tag w/Replaceable Battery - 72 g (2.52 oz.) License Plate Tag - 140 g (4.94 oz.)	
Environment		
Operating Temperature:	-25°C to +85°C (-13°F to +185°F)	
Storage Temperature:	-40°C to +100°C (-40°F to +212°F)	
Relative Humidity:	85% non-condensing @ 85°C	
Vibration:	10 g @ 10 to 500 Hz	
Shock:	30 g 1/2 sine pulse, 10 ms duration	
Power:	Internal batter or replaceable CR2450N battery	
Battery Life:	Windshield Tag - Internal battery, up to 8 years battery design life Windshield Tag w/Replaceable battery, up to 4 years battery design life License Plate Tag - Internal battery, up to 8 years battery design life	
Case Material:	Polycarbonate welded and weather resistant plastics	
Ordering Information		
Part Number:	Description:	
LPTAG-001	License Plate Tag	
T21TAG-XXX	XXX = Unique number for Tag incl. custom graphics	
T21TAGB-XXX	Replaceable battery - XXX = Unique number for Tag incl. custom graphics	
Models:		
Identity Title 21 Transponders		
		
Windshield Tag	License Plate Tag	Windshield Tag w/Replaceable Battery

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About Sirit

Sirit Inc. (TSX: SI) is a leading provider of Radio Frequency Identification (RFID) reader technology to OEMs and solution providers worldwide. Harnessing the power of Sirit's enabling-RFID technology, customers are able to more rapidly bring high quality RFID solutions to the market with reduced initial engineering costs. Sirit's products are built on more than 16 years of RF domain expertise addressing multiple frequencies (LF/HF/UHF), multiple protocols and are compliant with global standards. Sirit's broad portfolio of products and capabilities are easily customized to address new and traditional RFID market applications including Supply Chain & Logistics, Cashless Payment, Access Control, Automatic Vehicle Identification, Inventory Control & Management, Asset Tracking and Product Authentication. For more information, visit www.sirit.com.



The "RFID by Sirit" symbol signifies that Sirit Inc.'s high quality RFID reader technology resides within this product.

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