

Mobile Transponder

Model: FP101TC

User Manual

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1 Product Description

The FP101TC transponder is a dedicated short range communication, half duplex, active, and two way vehicle to roadside communications equipment, designed for Electronic Toll Collection (ETC) and advanced traffic management system.

The main features of the transponder are as following:

- ASTM V6 standards compliant.
- Audio notification using onboard Buzzer for indicating a successful tag read
- Agency programmable Transponder data, including unique ID and vehicle classification.
- Read and Write capability.
- Internal Lithium Non-Rechargeable battery.
- Low Power Consumption for long battery life time



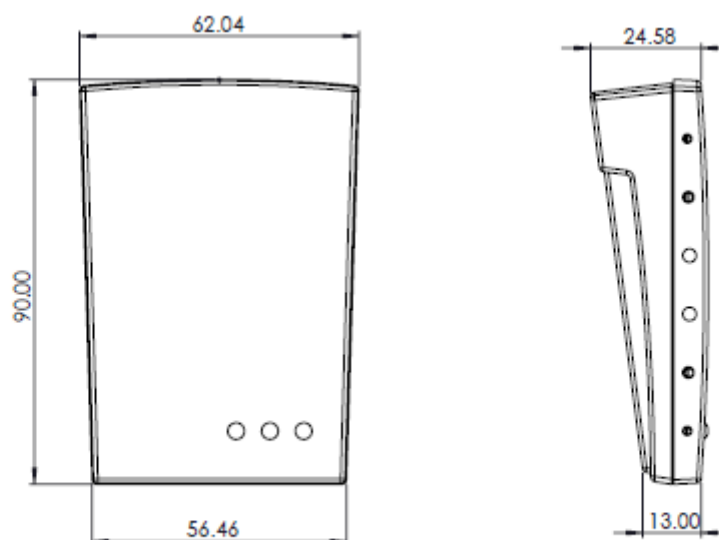
2 Technical Specification

2.1 Mechanical Characteristics

Table 1: Mechanical characteristics

Feature	Specifications
Maximum Dimensions (mm)	90 x 62.04 x 24.58 (L x W x H)
Weight (gr)	60

Figure 1: Dimensions



2.2 Environmental Characteristics

Table 2: Environmental characteristics

Feature	Specifications
Operating Temperature	-40°C to +85°C
Storage Temperature	+20°C to +30°C (recommended)

2.3 Electrical Characteristics

Table 3: Electrical characteristics

Parameter	Value
Internal Battery Voltage	3.6VDC nominal
Internal Battery Capacity	2.4Ah nominal

2.4 RF Radio Characteristics

Table 4: Radio characteristics

Parameter	Value	Unit
Operating Frequency	915	MHz
Protocol	TDMA/Adaptive Slotted Aloha Access	
Modulation	ASK	
Modulation Coding	Manchester	
Data Rate	500	kbps
Maximum output power EIRP	6	dBm
Antenna, Polarization	Internal, Horizontal	
Receiver sensitivity	-30	dBm

3 Installation

1. Position your transponder on the windshield behind the rearview mirror, 2" to 4" below the upper edge of the windshield.
-

Figure 2: Installation



2. If the windshield is divided, the transponder should be placed at least 2" away from the windshield separation line
3. Clean the surface with an alcohol pad and let it dry for a few minutes.
4. Use dual side adhesive tape to affix the transponder onto the windshield. Press firmly against the windshield for 10 seconds.
5. Wait for 2 hours for optimal adhesion of the transponder onto the windshield.

4 Regulatory Notice

FCC and Industry Canada Class B Digital Device Notice

The digital circuit of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAN ICES-3 (B)/NMB-3(B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Industry Canada interference Notice

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage;*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

FCC interference Notice

This device complies with part 90 of the FCC rules.

Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

FCC and Industry Canada Radiation Hazard Warning

WARNING! To comply with FCC and IC RF exposure compliance requirements, the device should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.

Le dispositif doit être placé à une distance d'au moins 20 cm à partir de toutes les personnes au cours de son fonctionnement normal. Les antennes utilisées pour ce produit ne doivent pas être situées ou exploitées conjointement avec une autre antenne ou transmetteur.

WARNING! Changes or modifications to this equipment not expressly approved by the party responsible for compliance (ST Engineering Telematics Wireless Ltd.) could void the user's authority to operate the equipment.