

# PRODUCT DATASHEET



Confidex License Plate Tag™

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# 1. PRODUCT DESCRIPTION

## 1.1 OVERVIEW

### Introduction

Confidex License Plate tag is a passive UHF tag suitable for electronic license plates. The product adds RFID functionality to a license plate to enable effortless and precise vehicle identification. Innovative and novel services, monitoring or surveillance applications can be established as vehicle identification becomes reliable and cost efficient.

The ISO 18000-6C protocol enables very fast identification even in dense and high-speed traffic flow. Electronic data on the tag can be password protected and encrypted so that only authorized parties can read the information.

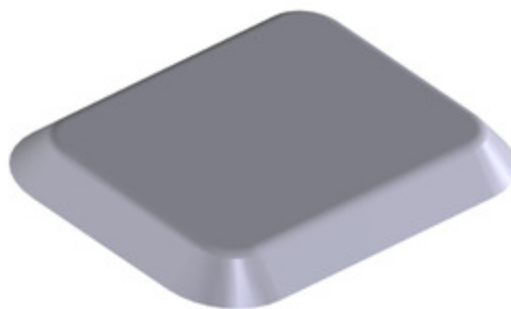
The rugged structure is designed to operate in harsh outdoor conditions and comes with practical mounting possibilities. Confidex License Plate Tags are customizable with surface printing, security markings or special programming. They can be delivered with special production data and delivery forms to integrate in customer issuing procedures and workflows.

### Target applications

- Electronic License plate, License plate protection, Vehicle registration
- Taxation, Road toll
- Border control, Access control
- Traffic management, Insurance verification

## 1.2 PRODUCT STRUCTURE

Confidex License Plate Tag is encapsulated with durable plastic which gives the tag a very rugged structure. 3D-antenna structure is fitted in to low-profile casing and total thickness of the tag is only 5mm.

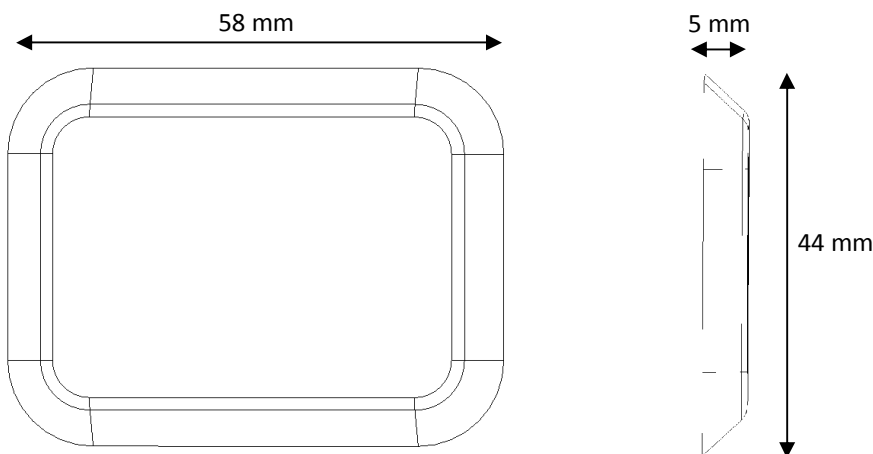


### 1.3 SPECIFICATION DATA

<b>Application</b>	Electronic License Plate for vehicles
<b>Encapsulation material</b>	PC/ASA
<b>Delivery format</b>	Single
<b>Amount in box</b>	960 pcs
<b>Device type</b>	Class 1 Generation 2 passive UHF RFID transponder
<b>Air interface protocol</b>	EPCglobal Class1 Gen2 (ISO 18000-6C)
<b>Operational frequency</b>	865 – 869 MHz 902 – 928 MHz
<b>IC</b>	Impinj Monza 4E™
<b>EPC memory</b>	469-bit
<b>EPC memory content</b>	Unique number encoded as a default
<b>Extended memory</b>	TID: unique 96-bit (factory programmed) USER MEMORY: 128-bit
<b>Read range</b>	up to 7-8 m reader power 2W ERP, ETSI 302-208 (dependent on application)

### 1.4 DIMENSIONS

**General dimensions  
(Width x Height x  
Thickness)** **58 x 44 x 5 mm / 2.28 x 1.73 x 0.20 inch**



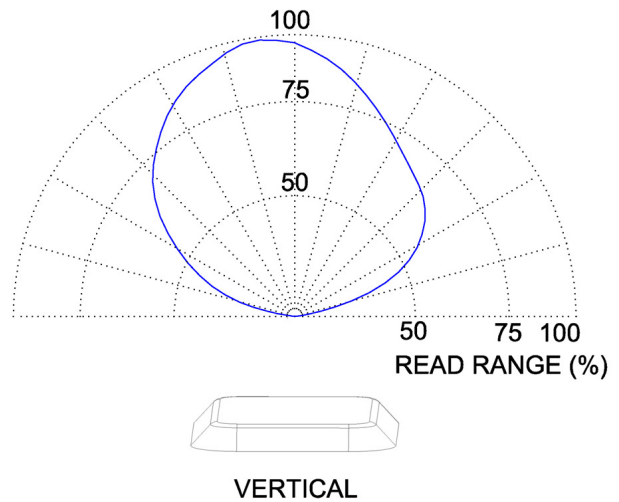
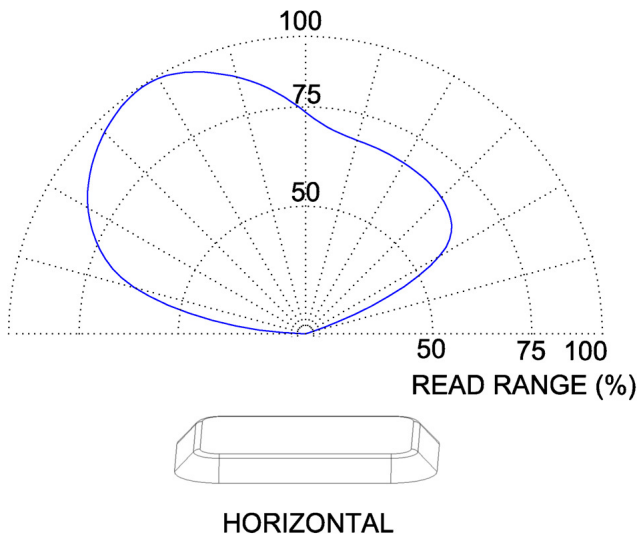
### 1.5 ELECTRICAL PERFORMANCE

<b>Read range on metal (2W ERP, anechoic environment)</b>	
<b>ETSI (865-869 MHz)</b>	<b>Up to 8m / 26 ft</b>
<b>FCC (902-928 MHz)</b>	<b>Up to 7m / 23ft</b>

\*2W ERP, anechoic environment. Read ranges may vary depending on the used frequency, reader power and environment.

#### Radiation pattern (normalized):

\*Radiation pattern may vary depending on tag placement on license plate.



### 1.6 RESISTANCE AGAINST ENVIRONMENTAL CONDITIONS\*

Typically values are valid for all tag versions. If not, applicable IC versions are marked

<b>Operating temperature</b>	-30°C to +60°C (-22 °F to + 140°F)
<b>Ambient temperature</b>	-30°C to +60°C (-22 °F to + 140°F)
<b>IP classification</b>	IP65 Complete protection against dust. Protection against water jets from any direction.
<b>Weather ability</b>	Suitable for outdoor use.
<b>Impact resistance</b>	Very good protection against physical impacts.
<b>Chemical resistance</b>	Tolerates vehicle washing process with typical solvents.
<b>Expected lifetime</b>	Years in normal operating conditions.

\* Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.

## 1.7 VISUAL APPEARANCE

Product color is RAL9002 (natural white).



## 1.8 SUPPORTED SERVICES

There is several personalization options available for License Plate Tag in order to “fine tune” the tag to match with the application requirements:

- Tampo-printing
- Laser engraving
- Pre-encoding
  - RFID tag memory is initialized according to customer requirements
- Production data delivery
  - Production and RFID-tag data is shared with customer according to customer requirements

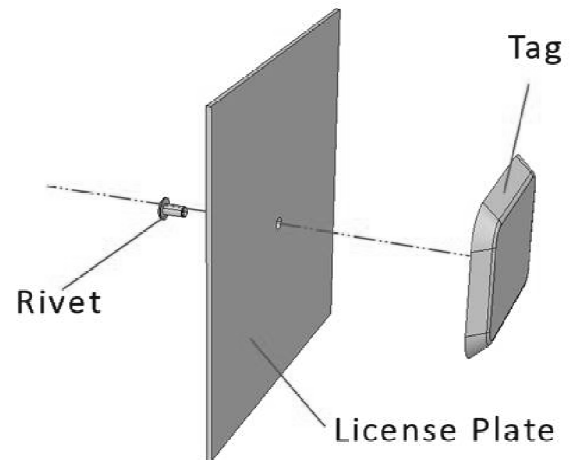


For exact specifications, please contact Confidex Ltd.

### 1.6 TAG ATTACHMENT

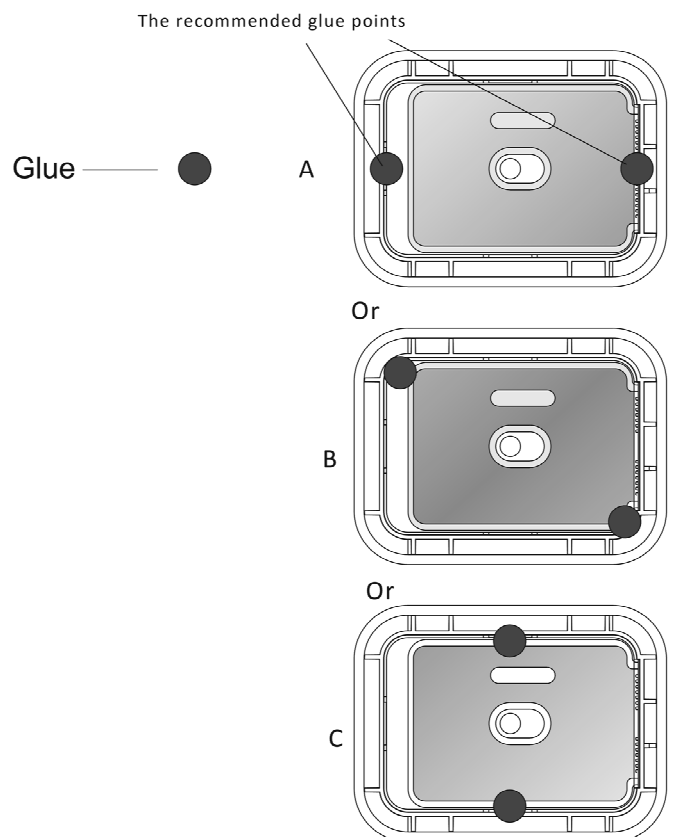
This RFID tag is designed to be attached on metallic license plate:

- Hole diameter for rivet in license plate shall be 3.3 – 3.4 mm.
- Use standard pop-rivet (3.2mm / 6mm).
- Choose rivet material according to license plate material to avoid rivet corrosion.



Before riveting, add thin layer of silicone sealant or adhesive on the tag backside and place the tag firmly on the correct location on the plate.

Sealant will both help the attachment process and it will prevent possible vibrations caused by resonances in vehicle. In long term, such vibrations can cause tag attachment to loose and eventually RFID-tag may fall off. Sealant or adhesive can be silicon, epoxy or any other type of sealant/adhesive- product. Sealant amount should be minimized (max. 0,5mm) to allow electrical coupling between RFID-tag and metallic register plate.



## 2. ORDER INFORMATION

Product number	Product name
3000517	Confidex License Plate Tag™ ETSI
3000518	Confidex License Plate Tag™ FCC

For additional information and technical support contact Confidex Ltd.

### FINLAND

Confidex Ltd.  
Haarlankatu 1B, 33230 Tampere, Finland  
Tel. +358 10 4244 100 Fax. +358 10 4244 110  
contact@confidex.net www.confidex.net

### USA

Confidex Inc.  
1502 Fair Weather Ct., Apex, NC 27523, USA  
Tel. +1 919 349 5607 fax +1 810 958 0515  
www.confidex.net

### CHINA

Confidex China  
2F, Building A3, Guangzhou Science Enterprise Accelerator  
No.11, Kai Yuan Rd, Guangzhou Economy Development Zone  
Guangzhou 510530  
People's Republic of China  
Tel. +86 20 3205 7361 fax +86 20 3205 1429  
www.confidex.net

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