

WINDOW TAG ULTIMATE

installation guide



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1 INTRODUCTION

The advanced tag authentication of the WINDOW TAG ULTIMATE is only functional when the Security Key Pack has been installed in the TRANSIT ULTIMATE.

The WINDOW TAG ULTIMATE is a long-range identification tag used in applications where vehicles need to be identified secure, fast and convenient. The WINDOW TAG ULTIMATE will be identified up to 10 meters [33 feet] by the TRANSIT Ultimate reader as soon as it enters the reading zone. The WINDOW TAG ULTIMATE is designed to complement the interior of a passenger vehicle. Integrated suction pads with industrial strength install the tag in seconds to the inside of a windscreen.

Read-only

The WINDOW TAG ULTIMATE is read-only factory programmed with a unique customer specific security code, a customer defined tag ID number and unique AES128 authentication encryption keys. The part number, tag ID number and date of manufacture are laser etched into the back case of the tag.

Manual user activation

The WINDOW TAG ULTIMATE has a switch for user activation, designed for applications where the driver determines the time and distance of reading and driver authorization is important.

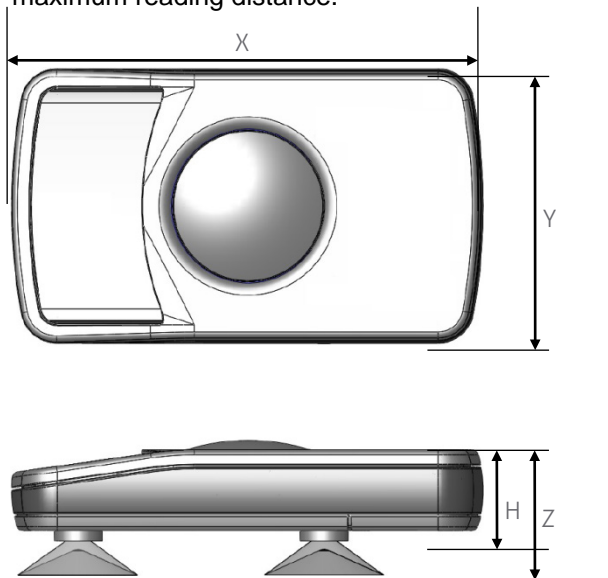
The WINDOW TAG ULTIMATE will only transmit the tag ID to the TRANSIT Ultimate reader for 5 seconds when the switch is activated.

2 INSTALLATION

2.1 DIMENSIONS

The Tags are easily mounted to the inside of the car's windshield by means of suction cups. Users should ensure the visual contact between the Tags and any TRANSIT reader is unobstructed with items such as stickers or metallized windshields (see also chapter 2.3 about solar control windshields).

Note that the Booster's suction cups must be faced toward the reader to achieve maximum reading distance.



Dimension			
Length	X	111 mm	4.37 "
Width	Y	65 mm	2.56 "
Height	Z	32 mm	1.26 "
Body height	H	24 mm	0.95 "
Tacho wire			
wire length		1700 mm	67 "
wire thickness		2 x 0.25 mm ²	2 x AWG 23

2.2 TEMPERATURE CONSIDERATIONS

The Tag is designed to operate within the extreme temperature ranges, which often occur behind a vehicle's windshield during the winter or summer seasons (-20°C to 85°C / -4°F to +185°F). However the personal identification card inserted in the Tag may not be designed to withstand such temperatures and could suffer damage as a result.

Nedap recommends to remove the personal identification card when not in use.

2.3 SOLAR CONTROL WINDSHIELDS

From 1997 onwards several car manufacturers introduced vehicles with solar control windshields. The solar control windshields are equipped with a metalized coating, which can block the TRANSIT signal from the Booster mounted on the inside of the windshield of the vehicle.

Most of these windshields have a metal free zone where transponders can be mounted. The metal free zone of metalized windshields is most often found in the middle of the windshield behind and slightly below the rear view mirror. In vehicles manufactured after 1998 the metal free zone should be indicated on the window.

We advise the owner to contact the local car dealer if it is not clear where the aperture is exactly positioned in a certain vehicle and where the transponder should be mounted.

2.4 HOW TO USE THE TAG

Place the Tag on the inside of the windscreen of your vehicle as described in chapter 2. The driver inserts his personal identification card and activates the Booster's button.

A beep should indicate that the card was successfully read. A low beep indicates that card reading failed. The TRANSIT reader can identify your card up to a distance of 10 meters (=33 ft).

After 5 seconds the Tag returns into sleep mode. The Tag will remain active when in 'always-on'-mode.

2.5 Theory

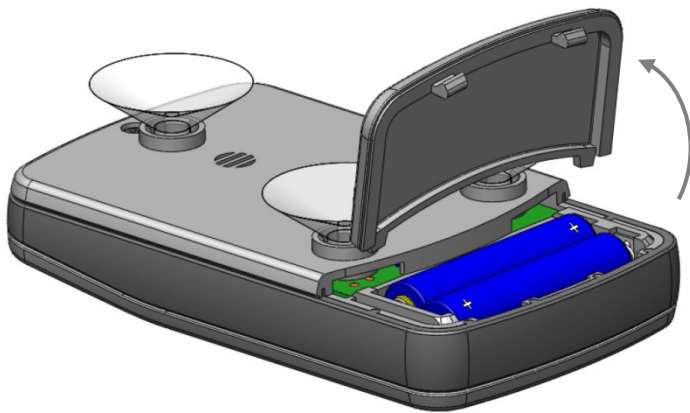
The Tag is a battery operated passive tag. The information from the tag is sent to the reader by a method called modulated backscatter. This means that the 2.45 GHz signal coming from the reader's antenna is modified in such way that it can be recognized by the reader

3 BATTERY REPLACEMENT

The Tag contains two replaceable non-rechargeable AAA batteries.

The average lifetime of these batteries is approximately 5 years. When replacement becomes necessary follow the procedure below.

- 1 Open the battery compartment.
- Remove both batteries. Follow local environment protection laws / regulations for disposal of used batteries.
- Replace with two new batteries. Make sure that the polarity matches the indicated polarity. Refer to appendix A for battery requirements.
- Close the battery compartment and verify if the Tag is working properly.



A TECHNICAL SPECIFICATIONS

Dimensions	111 x 65 x 24 mm (4.4 x 2.6 x 1.0 in)	
Weight	120 gram (4.2 oz)	
Protection	IP32	Approx. NEMA 2
Operating temperature	-20°C ... +85°C (-4°F ... +140°F)	
Storage temperature	-40°C ... +85°C (-40°F ... +140°F)	
Color	Grey	RAL 7016 / RAL 7040
Relative humidity	10% ... 93%	non-condensing
Identification range	Typically 10 meters (33 ft)	line-of-sight required
Battery, size AAA, 1.5V	2 x Duracell Procell PC2400	Or equivalent ($I_{\max} < 8A$, $< 100VA$)

B FCC / IC STATEMENT

FCC ID : CGDTAGULTI01

IC : 1444A-TAGULTI01

Compliance statements (part15.19)

This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil se conforme aux normes CNR210 exemptés de licence du Industry Canada.

L'opération est soumise aux deux conditions suivantes:

- (1) cet appareil ne doit causer aucune interférence, et
- (2) cet appareil doit accepter n'importe quelle interférence, y inclus interférence qui peut causer une opération non pas voulu de cet appareil.

Warning (part15.21)

Changes or modifications not expressly approved by party responsible for compliance could void the user's authority to operate the equipment. This in particular is applicable for the antenna which can be delivered with the WINDOW TAG ULTIMATE System.

RF Exposure (OET Bulletin 65)

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

Information to the User (Part 15.106(b))

Note: This equipment has been tested and found to comply with the limits for a class B digital devices, pursuant to part 15 of the FCC Rules and Canadian ICES-3. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequent 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 not cause harmful interference to radio or television reception, which can be determine 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.

C DISCLAIMER

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