Nedap AVI

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AVI & Hands Free Solutions.

To enhance the stock coded access control range and to provide our end users with improved security, control and monitoring of their premises and sites at main vehicle entrance points. We have worked with Nedap AVI to include in the stock coded a range of entry level low cost solutions for vehicle and pedestrian hands free access and higher security designed longer range solutions for specific control needs. We have also introduced for the first time a ANPR (Automatic Number Plate Recognition) solution specifically for integration with access control.

- Hands Free Access Control for special areas of need
- Low cost vehicle access control (up to 3m) where space and early detection is not a critical factor
- Long range (up to 10m) fast and secure vehicle and or Driver recognition for sites where security starts at the perimeter gate to the car park
- ANPR camera with Wiegand interface for an alternative solution to restricted car park control

Access to secured perimeters.
Knowing who is on site to meet security and health and safety requirements has given rise to a growth in demand for access control. Regulations have created different challenges within many industries and the need to control access of people and vehicles to facilities. With the two key user concerns, being security and convenience, our solution offers just the right combination of features to meet changing security market demands.

Secured convenient access
The Nedap solutions to this requirement add elements of convenience to the need for vehicle access systems. Drivers are not exposed to the environment whilst waiting or inserting a gate pass. This also increases throughput and stops delays to other vehicle traffic as theques build up at entrance popint whislt users search for their pass or try to reach a reader on a pedestal.

Independent driver and vehicle ID
The system offers unique patented ability to not just identify the vehicle ID but simultaneously identify an authorised driver as well. This ability significantly improves security in areas where several different drivers are driving vehicles.

Hands free access
Once at or within the building, these readers combine the convenience of traditional door automation with the security of restricted access. Secure hands free access is used to exterior and interior entry doors for disabled, emergency workers and hospital staff, allow industrial workers and equipment operators hands free access to roll up doors.

Choosing between UHF and Microwave based AVI systems
Selecting uPASS or TRANSIT for your AVI application
Nedap AVI launched the uPASS Reach in 2010 as an addition to its portfolio for long range identification of vehicles and people. The uPASS Reach is a UHF reader and operates at a frequency of approximately 900 MHz. Nedap has been selling its TRANSIT system for over 10 years. This system uses a very different, microwave, frequency (2.45 GHz).

Each system has its own characteristics and qualities which makes it suitable for specific applications. For this reason we have selected a range of products from both systems and would recommend that anyone who is not sure which is the right solution for the sites needs, contacts Nedap AVI for assistance.

What is the application?
Although the acronym AVI refers to automatic vehicle identification, it is important to realise that the system is used in a wide variety of applications across many different industries: Industrial & chemical plants use it to allow their staff safe and convenient access to their sites. Others to track of vehicles within their logistical processes. Bus depots use ours systems to manage access to the depot and keep track of their vehicles. There are many different types of application are out there. Some suitable for the UHF based systems, others requiring the microwave products.

Nedap AVI Introduction

System robustness
Once installed, the AVI system needs to keep operating no matter what happens. There might be severe weather conditions sometimes. Or maybe unsuspected types of vehicles are added to the population. Other systems might interfere with the frequency bandwidth that your system is using. Windshields might be equipped with solar protection. Dirt and dust might be affecting the performance of the system.

In general one can say that at this moment microwave based systems are more robust and are less likely to be affected by circumstantial influences when compared to UHF based systems. In Nedap terms: if you want to apply the system in difficult situations and want to be 100% sure the system keeps working: choose TRANSIT. In other words: are you dealing with a requirement where the systems robustness is of the upmost importance to ensure operational business continuity? Then the TRANSIT microwave system should be your first option to consider. It is using semi-active battery empowered transponders and a very robust IP66 reader. The technology has been around for more than a decade and has proven to be well performing technology. If you can afford a little less resilience, then UHF readers, including the uPASS Reach, might be a good alternative.

Investment
When AVI systems were still solely equipped with microwave based technology or something comparable, AVI solutions were sometimes systems could be outside of the clients budget. Although AVI can increase the convenience and security on a site also allowing for a quick return on the initial investment, the latest UHF technology is able to introduce an AVI solution to sites who could not before justify the costs. Thiscost effective long range reader that supports passive UHF cards and tags, which are lower cost initially than their battery powered counterparts and of course have no anticipated end of life date due to battery usage from the microwave system. So if price is an issue, uPASS UHF technology might be a good option.

Guaranteed read range
When debating about the quality of AVI systems, many people will refer to the maximum read range. Nedap AVI feel this is not the highest priority – it is the accuracy of read and the distance required for the application that must be identified. Both microwave and UHF based systems are able, depending on design and power of readers and transponders, to support very long read ranges of sometimes over 20 meters.

For most AVI applications having a read range of more than 10 meters is useless. That is why the TRANSIT is specified at a distance of approximately 10 meters. The small and slim line design UHF reader was developed for applications where approximately 4 meters should be sufficient. Both technologies require line of sight between reader and transponder (tag).

If you want a guaranteed long read range, the TRANSIT microwave system would be your first option. With UHF based AVI systems it is the combined quality of readers, tags and circumstances that will define the success of the implementation.

Driver and vehicle identification
One thing that sets the TRANSIT microwave system apart from competitive systems is the fact that using the booster technology Neday has been able to offer the option to identify the vehicle and also the driver and thus be able to authorise access via the system based on both criteria being approved.

Although UHF systems were developed to support "multi tagging" scenarios, there currently are no systems that offer a good "out of the box" solution to identify both the driver and the vehicle.

ATEX certified
In explosion hazardous environments (oil refineries for example) very often only the installation of ATEX certified equipment is allowed. Microwave technology has been used successfully in these environments for years. Nedap's TRANSIT ATEX reader and "Heavy Duty Tag" are ATEX certified and have been used in numerous installations around the world.

Security
Defining which technology is more secure dificult. A secure solution could be described as a solution that people cannot easily abuse to get access to goods or areas they are not authorised for. There is always a security risk attached to any technology. Long range AVI very often is more about convenience than it is about security. But of course security risks must always be considered when using technology like this to allow vehicles and drivers access to a closed perimeter.

Nedap AVI Introduction

Summary
Although both microwave and UHF systems can offer a good level of quality, convenience, resilience and security to end users. Both systems support the safe, secure and speedy flow of traffic and people. The table below shows the key characteristics of both technologies to try and assist with product selection:

Topic:	Microwave (TRANSIT)	UHF (uPASS)
System robustness	*	
Investment		*
Guaranteed read range	*	
Driver and vehicle identification	*	
Support of open standards		*
Globally harmonized frequency	*	
Support of volatile population		*
ATEX certified	*	
Security	*	

License plate reader

What is ANPR?

Automatic Number Plate Recognition (ANPR or LPR) can be used for automatic vehicle identification and vehicle access control applications. This technology physically consists of a camera with built in software for OCR (Optical Character Recognition). The big advantage of using ANPR for AVI applications is that it makes use of something that almost every car already has – a number/ license plate.

Why ANPR?

ANPR is very suitable for situations where it is unachievable or undesirable to issue and administer RFID tags, in applications such as:

- Vehicle identification for parking management
- Vehicle access control applications with one off or short term authorizations
- Vehicle management applications dealing with rapidly changing car populations
- If specific RFID bandwidths cannot be used because of interference or regulations

Considerations

ANPR appears to be the effective solution- easy to deploy, maybe on the main building looking towards the vehicle entrance. No cards or tags to deploy to users – and easy to add a visitors details in advance by registering the vehicle on the system prior to their arrival.

It has to be considered that number plates can easily be copied, damaged, have irregular spacing and of course can be obscured by road grim, mud and snow.

uPASS UHF

Features:

- Up to 4m read range for vehicles from passive tag
- Tamper version of the vehicle tag available for additional security
- Up to 2m read range for pedestrian users
- Combi version of ISO card available for compatibility with other technologies if required
- Standard Wiegand output allowing reader connectivity to a wide range of systems

The uPASS reader range from Nedap AVI have been developed after many decades of experience with RFID technology. Timed to take advantage of new, superior Gen 2 tag read characteristics, the uPASS Reach reader is a culmination of both experience and innovation.
Providing a read range of up to 4 meters for external applications and 2 meters for internal, uPASS offers a true long range solution for disabled access, post room staff, car parks, gated communities, and employee parking lots. uPASS reader offer maximum distance at an affordable price.

uPASS Reach is the perfect cure to the problems characteristic of proximity in car park and roller shutter entrances etc applications and it's ideally suited for upgrading those installations as the reader can easily be installed on a gooseneck with no need for additional mounting accessories or rewiring.

uPASS Access is a small UHF reader that reads access badges at a distance of up to 2 meters. It is the perfect solution for doors that require convenience and security such as office doors, high volume entrances and disabled access.

uPASS is a 865-955 MHz reader and EPC Gen 2 passive tag based system. With readers installed at a height between 1.2 and 2 meters. A long range UHF tag visible in direct line of sight will be identified from up to 4 meters.

Passive - Maintenance Free
The system is based on passive Gen 2 UHF tags that provide superior read quality to previous tag standards. Plus, they are both battery and maintenance free. Tags are mounted inside the vehicle behind the windshield. The thin, flexible, UHF sticker format is easy to install and has a windshield compatible adhesive to ensure proper mounting. For added security, tamperproof - break upon removal- tags are also available.
The ID number is printed on the tag allowing easy and fast enrolment of tags into a management system. An additional printed barcode makes it even easier. Security authentication features are included to provide data integrity and to prevent cloning of tags.

uPASS Access

Features:

- Small reader design
- Consistent reading up to 2 meters
- Operates with passive UHF cards (EPC GEN 2)
- Supports combi card technology, UHF with HID, Legic, Mifare,
- FeliCa, EM and Nedap
- Indoor and outdoor mounting (IP65 rated housing)
- 3 colour led and beeper indication

uPASS Access readers offer a revolutionary and enduring solution for hands-free door access. The uPASS Access has the dimensions of a conventional access control reader but offers read range unmatched in the industry, up to 2 meters using the latest UHF technology.*

Technical Specifications:

Operating frequency	Region 1: 865-868 MHz Europe
Dimensions	150 x 50 x 40 mm
Weight	0, 5 kg
Housing	Aluminium (Zamak5) chassis with polycarbonate cover
Colour	RAL7016 cover and RAL9006 chassis
Protection	IP65 [approx.NEMA4x]
Detection range	Up to 2 meters with passive Nedap UHF cards or Nedap UHF Combi cards
Range check	LED
LED indications	Green Red
Operating temperature	-30...+60°C
Power	12...24 VDC +10% linear supply recommended
Current consumption	1A @12VDC, 0.5@24VDC
Input	TTL digital inputs for LED control (RED/GREEN)
1 TTL digital input for beeper control	
	Tamper Tamperswitch
Output	Wiegand, clock data, magstripe (depending on programmed tag format)
Cable distance	Wiegand 150 m 22AWG RS485 1200 m
Cable	Fixed cable length of 5 meters included
Interfaces	RS485 and USB2 service interface
Encrypted air interface	According to ISO 18000-6 C
Certifications:	FCC (preliminary), CE EMC European Directive for EMC 89/336/EEC,EN301489-1
Safety	EN 60950

Order Code:

9958240	UPASS Access dark grey region 1

UHF Combi Card

Features:

- Thin, ISO card format
- Identification up to 3 meters
- One card solution for access control
- Battery free
- Security protected

The UHF Combi card is a card featured with long range UHF and proximity or smartcard technology. It ensures the use of one single card for both vehicle and building access applications.

The UHF Combi card is a passive UHF ISO card offering long range vehicle access up to 3 meters in combination with a uPass Reach reader.

Next to UHF technology, the Combi cards are featured with proximity or smartcard technology, used for building access. It offers the best of both and ensures compatibility and seamless integration with existing access control applications.

In combination with UHF several technologies are supported;
- UHF - Mifare
- UHF – Mifare Desfire
- UHF - Legic
- UHF – EM
- UHF – HID prox
- UHF – HID iClass

The UHF Combi card offers cost effective long range vehicle access for parking applications. Designing the system to require that the UHF Combi card is also used for building access ensures removal of the card from the vehicle.

Security
The UHF Combi card is featured with special security protection to provide data integrity and to prevent copying. The Combi card can be printed and personalized on request.

Applications
Typical applications include long range vehicle identification for parking applications, where the reader is mounted onto a pedestal/ gooseneck and card is presented by the driver to the reader. See for more information the uPASS application note.

Order Code:

9954112	Nedap uPASS Combi card. UHF technology for uPASS Access readers and HID iCLASS 26bit technology for iCLASS compatibility on site. Nedap How To Order Guide must be completed at time of order

Technical Specifications:

Technical Specifications	**UHF Combi Card**
Operating frequency	UHF 850 - 950 MHz (UHF ISO card) UHF 850 - 950 MHz & 13.56 MHz (Mifare / Legic) UHF 850 - 950 MHZ & 125 kHz (EM)
Standard	ISO 7816, EPC Gen 2
Dimensions	85 x 54 x 0.95 mm
Protection	IP54 [approx. NEMA 2]
Colour	White
Material	PVC
Customisation	Customised printing on request.
Operating temperature	-20+50°C
Detection range UHF	up to 3 m with uPASS Reach reader when properly alligned
Detection range access card	few cm, depending on applied reader and card technology
Humidity	10% ... 93% relative humidity, non condensing
Part numbers	9943943 UHF ISO Card 9942343 Combi card UHF - Mifare 1K 9206388 Combi card UHF - Mifare DESfire 4K 9942360 Combi card UHF - EM4102 9954082 Combi card UHF - HID Prox Wiegand 26 9954104 Combi card UHF- HID Prox 9954112 Combi card UHF - HID iClass 2K Wiegand 26 9959343 Combi card UHF - HID iClass 2K 9955836 Bundle 25 Combi cards UHF – HID Prox Wiegand 26 9955844 Bundle 100 Combi cards UHF – HID Prox Wiegand 26
Readers	9942319 uPASS Reach (region 1)
Accessories	5793785 Soft plastic ISO card holder (without clip 5793793 Open hard plastic ISO card holder (without clip)

uPASS Reach

Features:

- Consistent reading up to 4m
- Operates with passive UHF tags
- EPC Gen 2 compatible
- Competitive pricing
- On-site adjustable reading
- Elegant slim design
- LED and audible read indication
- Weatherproof protected housing

The uPASS Reach reader offers long range vehicle identification up to 4 meters using the latest UHF technology. Based on battery free passive UHF the uPASS Reach reader offers a cost effective and enduring solution for parking access.

The system is based on a uPASS Reach reader and a UHF tag. The Reach readers are installed next to the gate on a maximum height of 2 meters. This can be accomplished without any additional mounting accessories or wiring, when upgrading existing proximity Wiegand reader installations.

A long range passive UHF tag visible in direct line of sight will be identified up to 4 meters. The UHF tags are battery and maintenance free.

The reader output allows the access control or parking system to open the gate when authorized without the need to present a badge. The built-in high intensity LED provides the user visual feedback that the tag has been read.

The reader only supports read commands, so it cannot be used to write data into the memory of the tags.
Plug & Play operation The uPASS Reach reader has an integrated fine-tuned antenna in a compact enclosure ideal for outdoor as well as indoor applications. Like all Nedap's AVI systems, the uPASS Reach reader supports all common industry communication standards, enabling seamless integration into any existing or new access control or parking management system.

EPC global Gen2
The uPASS Reach complies with the ISO 18000-6 c and EPC global Gen2 directive. Nedap formatted tags are available for additional security.

Technical Specifications:

Operating frequency	Region 1: 865 - 868 MHz Region 2&3: 902 - 928 MHz
Dimensions	200 x 220 x 45 mm
Weight	0,75 kg
Housing	Aluminium chassis with UL94 ABS cover
Protection	IP65 [approx. NEMA4x]
Detection range	Up to 4 meters with passive Nedap UHF tags
Range check	LED
Operating temperature	-30... +60°C
Power	12...24 VDC +10% linear supply recommended
Current consumption	1A @12VDC, 0.5 A@24VDC
Identification	Read Only
Frequency offset	See application note dense reader mode
Input	1 dry contact or TTL
Relay output	1 relay output (NO, common, NC), 24 VDC 2A
Output	Wiegand, clock data, magstripe (depending on programmed tag format)
Cable distance	Wiegand 150 m. 22AWG
Interfaces	RS232, RS422 and USB service interface

Order Codes:

9942319	Nedap uPASS Reach Rdr. 865-868MHz Region 1 (Europe) 7591152 weather hood for
Accessories	
9875840	Adjustable mounting bracket
9943803	UHF Pole mount (all brackets for easy mounting onto a pole)
7591152	UHF Weather protection hood (reader protection for gooseneck or pole mounting)

UHF Windshield Tag

Features:

- Identification up to 4 meters
- Passive battery free tags
- Thin, flexible sticker format
- Protection against harmful UV rays
- Optional tamper resistant
- Customised printing
- Security protected
- EPC Gen 2 compatible

The UHF Windshield Tag is a passive UHF transponder offering long range identification up to 4 meters . The UHF Windshield Tag offers cost effective long range vehicle identification for parking applications.

The UHF windshield tag is an effective solution for upgrade of existing proximity installations for parking. It offer long range within reach, it was never so affordable.

The UHF windshield tag is based on passive UHF technology. The tag does not contain a battery and is maintenance free.

The UHF Windshield tag is featured with an excellent adhesive to allow quick and easy installation inside the vehicle to the windshield. The thin, flexible, UHF sticker format is easy to install and offers a tamper resistant AVI solution by way of permanently affixing it to the windshield. The tag is protected against harmful UV rays.

Technical Specifications:

Technical Specifications	UHF Windshield Tag	
Operating frequency	902 - 928 MHz	
Standard	EPC Gen 2	
Protection	IP54 [approx. NEMA 2]	
Colour	White with printing	
Material	Polyester	
Operating temperature	-20 ... +70°C	
Detection range	4 meters with uPASS Reach reader, when applied on glass*	
Humidity	10% ... 93% relative humidity, non condensing	
Customisation	Customised tag printing on request. Optional Barcode 39 printed on the tag on request	
Identification	R/O Read only number	
Tag Formats	Wiegand Magstripe Nedap XS format (compatible to Nedap's AVI tag format) (see for more information the How to order Guide)	
Mounting	Onto the windshield, the tag is featured with a standard pressure-sensitive adhesive back	
		Dimensions mm
Part numbers	9945954 UHF Windshield Tag Wiegand 26 9945946 UHF Windshield Tag 9942335 UHF Windshield Tag Tamper Resistant Wiegand 26 9946918 UHF Windshield Tag Tamper Resistant	101,5 x 25,4 90 x 27 106,5 x 28,5 90 x 27
Readers	9942319 uPASS Reach (region 1)	

Nedap TRANSIT Standard reader

Features:

- Compact industrial design
- Read range up to 10 meters
- Object speed up to 200 km/h
- Well defined adjustable read range
- Multi-channel frequency offset
- Variety of integrated interfaces
- Included wall mounting

The TRANSIT Standard reader is a long-range vehicle identification reader with built-in antenna and a wide variety of interfaces to ensure seamless and flexible integration.

The TRANSIT Standard reader consists of a controller with a built-in antenna for quick, easy installation. The TRANSIT Standard reader enables automatic identification of AVI tags from distances up to 10 meters with traveling speed up to 200 km/h . Due to the long read range, the reader can be installed out of the reach of vandals. The identification lobe of the reader is a directed beam, offering precise determination of the detection area.

Read range adjustment
The reader efficiently resolves typical multi-lane, entry and exit reader challenges. The read range of the TRANSIT standard reader can be adjusted to offer secure and reliable identification in a specific application.

Weather proof protected housing
The TRANSIT Standard reader is weatherproof protected with an IP65 [approx. NEMA 4x] certified housing. The reader continues to operate reliable under harsh environmental conditions and is able to withstand exposure to rain, snow and ice Interfaces & protocols
The TRANSIT Standard reader is designed for seamless and flexible integration to existing management systems in the industry, such as parking management, traffic control, loading control and access control systems.

Technical Specifications:

Operating frequency Europe:	2.400 – 2.482 GHz US: 2.438 – 2.457 GHz
Dimensions	310 x 250 x 100 mm
Weight	5 kg [9.9 pounds]
Housing	Stainless steel (AISI304) housing with ABS cover
Protection	IP65 [approx. NEMA4x]
Detection range	Up to 10 meters
Range check	Acoustic by built-in beeper
Operating temperature	-30...+60°C
Object speed	UP to 200 km/h [125 mph] at appropriate distance
Power Europe:	230 VAC +10%, 100 mA, 50-60 Hz / 22...30 VDC, max 1A US: 22..30 VDC, max. 1A
Power consumption	<25VA (on AC), <20 Watt (on DC)
Frequency offset channel spacing	138 channels [US 32 channels] 600 kHz to avoid interference, to be used when TRANSIT readers are installed in close vicinity of each other

Order Code:

9990410	NEDAP TRANSIT Standard long range vehicle identification reader - suitable for external use - ideal for vehicle access, car park and automatic vehicle identification through toll barriers. This includes the HID interface board*. This is the EU version - requires 22...30 VDC, max 1A

TRANSIT Edge

Features:

- Complete stand alone vehicle access system
- Stores 1.000 authorisation
- Remote web based access
- Read range up to 10 meters
- Well defined

The TRANSIT Edge is a complete stand alone system developed to allow for quick, easy and cost efficient deployment of perimeter security access to a wide range of facilities.

The HID Interface Board enables decoding of HID prox cards in the TRANSIT Standard when using Boosters in combination with HID prox cards.

Order Code:

9876510

NEDAP TRANSIT EDGE long range stand alone long range vehicle access system - suitable for stand alone applications such as gated community access, resort access, perimeter security, special event access and remote employee parking facilities where a stand alone long range vehicle access solution is required without complex installation

Transit Standard & Edge Mounting Accessories

	Description	Order Codes
	**NEDAP Pole mounting kit** Stainless steel pole mounting kit suitable for Nedap TRANSIT Standard reader, attaches to wall mounting bracket Key results; Min. Ø 40 mm round pole and max. Ø 190 mm round pole Max. 150 mm square pole	5626595
	**NEDAP Weather protection hood** Long range reader weatherproof cover, required for extreme weather conditions with long lasting exposure to sun or rain Recommended to apply a weather protection hood to protect the reader from direct water spray, rain or temperature rise by means of long lasting exposure to the sun. The weather protection hood can be mounted on the back side of the TRANSIT Standard or Edge reader.	7562640

Nedap TRANSIT Entry Reader

Features:

- Consistent reading up to 4m [12 ft]
- Elegant slim design
- LED and audible read indication
- Optional prox/smart card interface
- On-site adjustable reading
- Multi-channel frequency offset
- Weather proof protected housing
- USB service connection

The TRANSIT Entry reader represents the latest in technology for door access and long read range applications. Featuring a slim elegant designed housing the TRANSIT Entry reader makes a perfect fit to any door or vehicle gate environment.

Reliable consistent reading
The TRANSIT Entry reads AVI tags at distances up to 4 meters [12 ft] reliably and consistently.

Applications
Typical TRANSIT Entry reader applications involve handsfree; access to emergency rooms, access for disabled, door access, personnel tracking, gated community access, access to parking facilities.

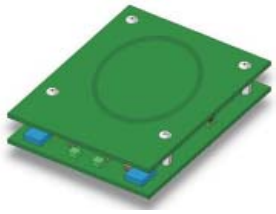
Order Code:

9876200	NEDAP TRANSIT Entry reader - designed for door or vehicle entry points. The TRANSIT Entry reads AVI tags from distances up to 4m subject to the environment and conditions.

Technical Specifications:

Operating frequency Europe:	2.400 2.482 GHz
Dimensions	200 x 220 x 45 mm
Weight	1 kg
Housing	Aluminium chassis with UL94 ABS cover
Protection	IP65 [approx. NEMA4x]
Detection range	Up to 4 meters with AVI tags
Operating temperature	-30... +60°C
Power	12...24 VDC +10% linear supply recommended
Power consumption	<20 Watt
Frequency offset	32 channels, spacing 600 kHz

Transit Standard & Edge Mounting Accessories

	Description	Order Codes
	**TRANSIT Entry Adjustable mounting Bracket** Mounting kit for TRANSIT Entry allowing for easy reader alignment. - Pole or wall mounting - Max. Ø round pole 133mm - Max Ø square pole 100 mm	9875840
	**Multi Technology Reader (MTR) module** The MTR module is a proximity smartcard interface module, allowing the TRANSIT Entry reader to operate with existing credentials (proximity or and smartcards) when presented to the face of the reader. Supported cards on 120 - 125 kHz; HID prox, EM and Nedap Supported cards on 13.56 MHz; HID iClass CSN, Mifare, Legic Advant UID and other ISO 14443 and 15693 compliant cards	7562640

Vehicle Based Tags

Window Button
Long range vehicle tag featured with a single ID and used for vehicle identification / access applications.

Features:

- Complete stand alone vehicle access system
- Stores 1.000 authorisation
- Remote web based access
- Read range up to 10 meters
- Well defined

Order Code:

9882650 NEDAP Window Button
Long range vehicle tag for use with Nedap AVI reader. Attaches by suction to insideof windscreen. Must be clear of metallic screen area. Gives up to 10m read range with TRANSIT Standard reader and up to 4m with TRANSIT Entry. Has a built- in lithium battery. Wiegand output.

Nedap Window Button

Long range vehicle tag with switch to allow user to adjust time and distance of read. Once the switch is activated the Window Button Switch will transmit the tag ID to the TRANSIT reader for 5 seconds.

Features:

- Long range single ID tag
- Suits interior of a passenger vehicle
- Excellent performance
- Easy windshield mounting with integrated suction pad
- Automatic transmission of vehicle ID
- Option with switch for operator controlled transmission
- Applications; vehicle access, gated communities, employee vehicle access

Order Code:

9882480 NEDAP Window Button Switch. Vehicle tag with button activation. Button press activates transmitter for 5 seconds. For use with Nedap AVI reader. Attaches by suction to inside of windscreen. Must be clear of metallic screen area. Gives up to 10m read range with TRANSIT Standard reader and up to 4m with TRANSIT Entry. Has a built-in lithium battery. Wiegand output.

Heavy Duty Tag ISO

Features:

- ATEX-certified for applications in the petrochemical industry
- Identification up to 10 m
- Shock and vibration proof
- Weatherproof enclosure (IP66)
- Tamperproof mounting
- ISO compliant

The Heavy Duty Tag is a durable, weatherproof RFID tag ideal for applications requiring reliable long range identification in harsh environmental conditions. Meeting harsh conditions The Heavy Duty Tag complies with the ISO 10374 directive for RFID of Freight containers. This Tag is shock and vibration proof, watertight, UV stable and chemical resistant. Applications in intrinsically safe zones are allowed based on the ATEX-certificate.

The Heavy Duty Tag features reliable performance up to 10 meters with the TRANSIT reader as soon as it enters the reader s detection area.

The Heavy Duty Tag is ideal for tamperproof mounting by means of screws, bolts or rivets exterior on vehicle chassis. The tag can directly be mounted on a metal surface.

Order Code:

9875980	Intrinsically safe vehicle ID tag for use with Nedap AVI reader. Attaches permanently to the outside of a vehicle, forklift, container or trailer and rovides up to 10m read range with TRANSIT Standard reader. Has a built-in Lithium battery - expected life time of up to 8 year life (not affected by number of uses). Wiegand output

Technical Specifications:

Operating frequency	2.45 GHz and 120 kHz
Dimensions	170 x 60 x20 mm
Weight	112 gram
Protection	IP66 for exterior mounting to vehicle and container chassis [approx. NEMA 4x]
Enclosure material	ASA/PC
ATEX product category	II 2 G EEx ia IIC T4
Vibration	DIN EN 50155, table 3.
Shock	DIN EN 50155, section 10.2.11.3.
Colour	Black, according to RAL 5003
Operating temperature	-20 ... +80°C
Storage temperature	-40 ... +85°C
Detection range	10 meters with TRANSIT PS270 Standard, TRANSIT PS270 ATEX or TRANSIT Extended reader 5 10 cm with NEDAP RF proximity handheld (ID-Logger)
Humidity	10% ... 93% relative humidity, non condensing
Power supply	Built-in lithium battery with an expected lifetime of 8 years. Battery lifetime is not affected by the number of times the tag is read or RF fields from other sources

Booster 2G

Features:

- Long range driver ID up to 10 m
- Supported credentials
- HID prox, EM, Nedap
- MIFARE, HID iClass, LEGIC, Calypso
- One card solution
- Simultaneous driver & vehicle ID
- Maximizes perimeter security

The Boosters enables long range driver identification. Driver based ID systems ensure that a vehicle can never get access to a secured area unless occupied by an authorized driver. The Booster is used in combination with a personal access credential. It is an easy to integrate solution for vehicle access, which eliminates the need to issue new cards.

Driver based identification, how does it work?
The driver based tag is made up of two elements.

1) Building access card
2) In-vehicle Booster

The Booster is placed on the windshield on the inside of a vehicle. When an authorized building access card is inserted into the Booster it will be read and then boosted to the external Nedap TRANSIT reader. The TRANSIT reader transmits the credential ID to any standard back end security panel. If the credential is authorized and access is granted the gate will open automatically. Removal of the Driver ID is ensured by designing the system to require that the access card is also used for building access.

Matching vehicle and driver
Optionally a separate ID (vehicle ID) can be programmed in the Booster hardware on certain models, this allows you to match the right driver with the right vehicle.

Boosters are available for almost all card technologies:

Prox-Booster 2G; supporting proximity access control badges operating on 120-125 kHz such as HID prox, EM and Nedap.

Smartcard-Booster 2G; supports ISO 14443 or 15693 compliant smartcards (eg. MIFARE, MIFARE DESFIRE, LEGIC, Calypso and HID iClass) operating on 13.56 MHz. Depending on applied card technology either CSN or sector information can be read, see Booster_Installguide for more information.

Transition-Booster 2G; supports proximity (120-125 kHz) as well as smartcard (13.56 MHz) technology. The Transition-Booster is specifically designed to be used in applications were multiple card technologies are applied simultaneously. It allows for seamless migration from existing Prox to versatile smartcard applications.

Booster applications
Typical applications for the Booster are high secured areas like airports, seaports, military bases, utility companies, corporate and educational campuses, police, fire and other installations where vehicles must be assigned to a specific driver.

Long Range Vehicle & Driver Identification

Technical information	Prox-Booster 2G	Smartcard-Booster 2G	Transition-Booster 2G
Part no.	9948538 Prox-Booster 2G 9948546 Prox-Booster 2G Single	9948554 Smartcard-Booster 2G	9948562 Transition-Booster 2G
Operating frequency	120 kHz /2.45 GHz	13.56 MHz / 2.45 GHz	120 kHz / 13.56 MHz / 2.45
Dimensions	116 x 72 x 27 mm according to Ertico OBU standard		
Weight	95 gram	120 gram	120 gram
Protection	IP32 [approx. NEMA 2]		
Colour	Grey, according to RAL 7016		
Operating	-40 ... +85°C		
Storage temperature	-40 ... +85°C		
Detection range	Up to 10 meters [33 feet] with TRANSIT Standard , up to 4 meter [12 ft] with TRANSIT Entry		
Humidity	10% ... 93% relative humidity, non condensing		
Mounting	Attaches with suction pads to the windscreen on the inside of a vehicle. In case of a metallised windscreen a metal free communication window is required.		
Certification	EN60950, EMC 89/336/EEC, EN50081-1, EN 50082-1, ETS 0908 and FCC		
Battery life	User replaceable AAA lithium batteries with expected lifetime of 5 years*.	User replaceable AAA lithium batteries with expected lifetime of 5 years*.	User replaceable AAA lithium batteries with expected lifetime of 5 years*.
Note	*Life time expectation is based on: · Average warm climate conditions. Exposure to extreme hot conditions might reduce battery life. · Default operating mode C		
Operating mode	C: After user activation vehicle and driver ID is transmitted (default) A: Continuous transmission of vehicle ID and driver ID * E: Continuous transmission of vehicle ID and driver ID without need to activate the switch, not even initially when card is inserted. * This option is not available for the Prox-Booster 2G single ID !	C: After user activation vehicle and driver ID is transmitted (default) A: Continuous transmission of vehicle ID and driver ID E: Continuous transmission of vehicle ID and driver ID without need to activate the switch, not even initially when card is inserted.	C: After user activation vehicle and driver ID is transmitted (default) A: Continuous transmission of vehicle ID and driver ID E: Continuous transmission of vehicle ID and driver ID without need to activate the switch, not even initially when card is inserted.

Long Range Vehicle & Driver Identification

Inductive readable	Only the Prox-Booster's embedded Booster ID.	Embedded Booster ID (vehicle ID)	Embedded Booster ID (vehicle ID)
Identification Driver	Prox-Booster: Driver ID & vehicle ID Prox-Booster single id: Driver ID	Driver ID & vehicle ID	Driver ID & vehicle ID
Supported prox cards (120-125 kHz cards)	EM/ Nedap / HID PROX up to 40 bits (HIB required on reader level 7819102)		EM/ Nedap/ HID PROX up to 40 bits (HIB required on reader level 7819102)
Supported smartcards (13.56 MHZ)*		ISO 14443 1/2A/3A ISO 15693 1/2/3 - MIFARE CSN and optional sector information - MIFARE DESFire CSN and file data - LEGIC Advant UID - HID iCLASS CSN - Calypso PUPI and public files See for more information Smartcard Config Program	ISO 14443 1/2A/3A ISO 15693 1/2/3 - MIFARE CSN and optional sector information - MIFARE DESFire CSN and file data - LEGIC Advant UID - HID iCLASS CSN - Calypso PUPI and public files See for more information Smartcard Config Program
Readers	9990410 TRANSIT Standard reader 9876200 TRANSIT Entry		

ANPR Access

Features:

- Automatic number plate reading
- All in one system, camera analyser, IR illuminator
- All European countries onboard
- World-wide countries available
- Range of action 4 to 6 meters
- Easy user configuration

The Nedap license plate reader is an all in one camera including camera, analyzer, and IR illuminator. The ANPR reader has embedded processing software onboard. The license plate reader is default featured with an RS485 and Ethernet communication.

The Nedap ANPR reader covers nearly all European countries and has a broad list of world-wide countries supporting a large range of IR-reflective license plates.

Easy configuration
The web browser interface also allows you to configure the transmitted Wiegand ID strings of the license plate reader. Upon reading of the license plate, the reader will refer to the database and transmits the corresponding Wiegand ID (via the set Wiegand format) to the access control panel. If the Wiegand ID is authorized access is provided by the connected access control panel.

Wiegand Interface Module
Using the separate Wiegand Interface Module the Nedap ANPR reader ensures easy and seamless integration into access control systems without worrying on integration associated with alphanumeric license plates. The Wiegand Interface Module can read a license plate and will operate similar to an access credential reader converting the license plate into a Wiegand ID string to the access control panel. Since most access control systems support a Wiegand ID number, easier integration is achieved.

Applications
Applications include parking, crime prevention, toll systems, security & access control and logistics and customs. In addition the license plate reader can be applied for application where it is difficult to issue tags.

Mounting
Default the ANPR reader is featured with wall/pole mounting bracket.

License Plate Reader For Vehicular Access Control

Technical information	**Automatic Number Plate Reader**
Part number	9949933 ANPR
Dimensions	200 x 120 x 100 mm
Housing	Aluminum die-cast chassis with HIPS cover
Protection	IP66 [approx. NEMA4x]
Operating temperature	-20... +55°C
Operating humidity	<90% non condensing
Power	24 VDC +10% linear supply recommended
Current consumption	10W, inrush current 3A
Range of action	*See for more information ANPR application note
Distance	3 to 6 meters
Width	Up to 3,5 meters .
CPU	ARM freescale 256 MB DDR2
Optics	CS mount lens
Image sensing resolution	B/W CCD 1300x1000 pixels
Colour	Monochromatic, 256 grey levels
Camera illuminator	IR850 nm
Camera optics	8 mm
Input	1 digital inputs (opto-isolated)
Output	1 digital output
Communication:	
RS485	1 line half duplex baud rate 1200, cable distance 1200 mtr
Ethernet	10/100 Mbps, TCP, UDP, FTP, HTTP, DHCP
Wiegand	Via wiegand interface module, see datasheet.
Configuration	Easy LAN connection and configuration via integrate webserver, login and password protected.
Data message customization	String syntax fully configurable for integration with access control systems and third party software
Supported number plates	**Europe**: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, United Kingdom, Czech Republic, Romania, Slovakia, Slovenia, Spain, Sweden, Hungary, Switzerland, Russia, Turkey, San Marino. **Africa**: Morocco, South Africa **Middle East**: Israel, Bahrein, Saudi Arabia, United Arab Emirates, Kuwait, Iraq **Americas**: Canada-Ontario, USA- California, Mexico, Argentina, Colombia, Brazil, Uruguay, Chile. **Asia/Pacific**: India, Australia, New Zealand
Number plate types	IR reflective number plate models
Result	Number plate character string
Mounting	Pole/wall mounting kit included
Accessories	9958789 Wiegand Interface Module

Wiegand Interface Module

Features:

- Converts a license plate to a Wiegand event
- Converts a RS485 signal to Wiegand
- Contains a match list to link license plate to a Wiegand badge reader output
- Easy user configuration
- Easy integration into access controls systems

The Nedap Wiegand Interface Module is module allowing for easy conversion of the Nedap ANPR reader to a required Wiegand format.

Use in combination with Nedap ANPR
The Wiegand interface module transforms seamlessly integrated license plate reading into a Wiegand badge reader output. It receives the license plate information via RS485 from the Nedap ANPR reader and converts the signal into a required Wiegand format to allow for easy integration into standard access control systems, eliminating time consuming integration associated with alphanumeric license plates.

Automatic Wiegand configuration
The Wiegand interface module allows you to configure and convert the transmitted license plate into an automatic selected Wiegand format. Upon reading of the license plate, the Wiegand interface module will convert the license plate according to selected algorithm to a corresponding Wiegand ID (via the set Wiegand format) to the access control panel. If the Wiegand ID is authorized, access is provided by the access control panel. Multiple Wiegand formats are supported. Since most access control systems support a Wiegand ID number, easy integration is achieved.

Match list
Additionally the Wiegand interface module can hold a internal match list. This match list will link the license plate to a specific Wiegand badge number (eg. driver's badge). The advantage is that no new numbers or license plates need to be authorized in the access system.

Wiegand interface Software
The match list can be managed remotely through the LAN interface of the Wiegand Interface Module. Using the Wiegand Interface Software multiple license plate readers can be updated at once. The match list is stored locally in the database of the Wiegand interface software. Identified number plates will be verified with the internal match list. If the Wiegand interface module is used and match list is filled, only known IDs will be transmitted to the access controller for authorization.

Moreover the Wiegand Interface Module will detect the following events:

- no match event
a license plate not matched to a Wiegand ID.

-no plate event
a vehicle triggers the camera, but no license plate is detected.

These events are logged and can be outputted in a selected Wiegand badge number.

Applications
Applications include vehicle access.

License Plate Reader For Vehicular Access Control

Technical information	Wiegand Interface Module
Part Number	9958789 Wiegand Interface Module
Dimensions	130 x 125 x 35 mm
Weight	600 g
Housing	Aluminum die-cast zinc alloy
Protection	IP40 [approx. NEMA1]
Colour	Graphite grey (RAL 7024)
Operating temperature	0... +55°C
Operating humidity	<90% non condensing
Power	12...24 VDC +10% linear supply recommended
Current consumption	4W
Communication	Between Wiegand interface module and ANPR reader - RS485 Between Wiegand interface module and access panel - Wiegand Optional between Wiegand interface module and PC to configure match list – TCP/IP
Cable distance	RS485: 1200 mtr Wiegand: 150m TCP/IP: 100m
Supported Wiegand formats	Any Wiegand format up to 64-bits.
User interface	Configuration of license plate with corresponding Wiegand ID via separate Wiegand Interface Software, this software also allows you to configure the match list.
Software	Wiegand Interface Software
Mounting	Desktop or wall mounting (brackets included)
Operates with	9949933 License Plate Reader