

Sales & Technical Reference Guide



vehicle
identification



people
identification



Securing the Flow

Nedap is the leading specialist in systems for long-range identification, wireless vehicle detection and city access control. We focus on identifying people and their vehicles without delaying them. This is how we empower security, parking and traffic management systems all over the world. Millions of professionals trust Nedap technology to support them, whether that is to access buildings, to drive into secured perimeters, or to find a parking spot. By combining cutting edge technology with decades of experience, that is how we secure the flow of vehicles and people.

90+ years
as an establishment

30+ years
experience in RFID

HQ
based in Groenlo, Netherlands

Seven
offices worldwide



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Understanding

Access Control

5 Components of Access Control

Access Control Panels (The Intelligence Level)

These are panels that allow single or multiple readers to be hooked up to one system to control access in and out of the perimeter. When a tag (in the system) is recognized by a reader, a signal is sent from the panel to open a gate or unlock the door to allow access into the secured area.

Readers

Depending on the needs or application, the readers vary in read range from 6-33 ft., but they can be dialed down to mere inches. Nedap readers are directional so the tag and reader need a clear line-of-sight between them in order to create a read.

Cards or Tags

These credentials are issued to the person/s desiring to gain access and must be enrolled into your access control software. With the two different families of technologies, you will need to ensure you are matching Nedap Active tags with the (2.45 GHZ) TRANSIT reader and Nedap Passive tags with our Passive Readers (900 MHZ) as the two families work on different frequencies.

Entry/Exit Hardware

The electronic locks are triggered when the tag is recognized by the reader and a signal is sent to release the lock or open the gate.

Software

This is the platform where you enroll and setup the configuration for credentials along with setting schedules that allow access to certain zones of your property.



Nedap Readers are open ended, meaning it will work with any Access Control panel capable of handling Wiegand, RS232, RS485, OSDP, and TCP/IP.

Long Range Vehicle Identification

When securing a property there are multiple layers of access. As you proceed through each zone there should be security checkpoints along the way. The first zone you enter is the perimeter. This zone is usually controlled by a gate with a guard shack or a hands-free long-range reader. There are two main types of technologies used in long range vehicle identification, Active (2.45 GHZ) and Passive (900 MHZ).

Nedap 2.45GHZ Active/Semi Active Technology

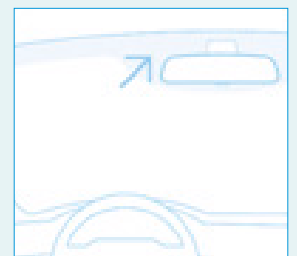
The readers and tags with active technology are battery powered and when they enter the read lobe of the reader, both the reader and tag push a signal in order to create a read. This tends to be the best option for high secure areas that include but are not limited to military, government, airports, and industrial applications. The Active solution is your top-of-the-line product.

Nedap 900MHZ Passive Technology

The readers and tags in the UHF product line are basically a reflective technology (aka no battery in the tag). It's a mirror and flashlight analogy, the reader being the flashlight and as it emits its signal and the tag acting as the mirror reflecting it back. This creates the read. This solution is used heavily in the Parking Industry, HOA/POAs, and Condos (just a few examples) to gain access into gated areas. It's a very cost-effective method for perimeter access.

★ Limitation of ALL RFID Technology:

Metal blocks RFID reads. Most windshields will have metal oxide in the windshield, but there is usually a break in the metalized content around the rearview mirror. However, in higher end vehicles, there may not be a break in the metalized content which can cause issues with tag reads. (Example: some models of Mercedes, Land Rover, Tesla, etc.) For this use an exterior tag.



Product Verticals

Application	Product Line	
	uPASS (900MHZ)	Transit (2.45 GHZ)
Military		☆☆
Airport	☆	☆☆
Government		☆☆
Parking	☆☆	☆
Industrial		☆☆
High-End Vehicles	☆	☆☆
Transportation & Logistics	☆	☆☆
Mining		☆☆
HOA/POA	☆☆	☆☆
Education	☆☆	☆
Healthcare	☆☆	☆
Condominiums	☆☆	☆
Multi-Tennent	☆☆	☆
People/Door Access	☆	
Arenas	☆☆	☆
Car Wash	☆☆	
	Tag Type: Passive Pwr Req: 24VDC/2-3 Amp	Tag Type: Semi-Active Pwr Req: 24VDC/2-3 Amp

☆☆ Commonly used vertical fits for Nedap products

TRANSIT

2.45 GHZ Active Technology



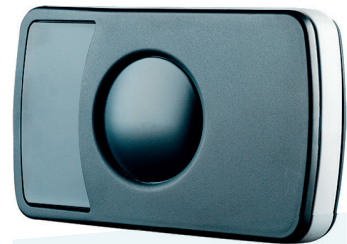
TRANSIT Ultimate

The TRANSIT Ultimate is an extremely robust reader that enables long-range identification of vehicles and drivers in challenging situations. With a read-range up to 10 meters (33 ft.), features for tag authentication and bi-directional communication between readers and tags, this advanced reader offers the highest level of security and convenience.



Driver Based Identification

The Booster enables driver based identification. This patented solution ensures a vehicle only gets access to a secured area when it is driven by an authorized person. The Booster is used in combination with existing personal access credentials. It supports proximity cards such as HID, EM and Nedap, but also certain types of smartcards such as MIFARE, MIFARE DESFIRE, LEGIC, Calypso and HID iClass.



Window Button

Vehicle identification tag with optional user activation for safe vehicle access.



Compact Tag

Credit card sized tag with dual side read capability for hands-free access.



Heavy Duty Tag

ATEX-certified tag for vehicle identification in harsh environmental conditions.



Prox Booster

Simultaneous driver and vehicle identification for secure perimeter access with authentication feature.

TRANSIT

Product Ordering & Part Numbers

TRANSIT Reader (24VDC 2-3A Linear Power Supply Required for All Readers)

9215689	Transit Ultimate Reader
9218327	Transit Ultimate Weather/Protection Hood
5626595	Transit Ultimate Pole Mounting Kit



Window Button
9882650



Window Button w/ Switch
9882480



HD Exterior Mount
9875980



Compact Card
9891900



Prox or Smartcard Booster
Single, Dual, Smart

TRANSIT Tags

9882650	Transit Window Button (33 ft. - Hands Free)
9882480	Transit Window Button w/ Activation Switch (33 ft. - Must Push to Activate)
9875980	Transit Heavy Duty/HD Exterior Mount Tag (33 ft.)
9891900	Transit Compact Tag (22 ft. - Clamshell Design)
9948546	Transit Prox Booster (33 ft. - Single ID - Card Only)
9948538	Transit Prox Booster (33 ft. - Dual ID - Vehicle and Card ID both)
9948554	Transit Smart Card Booster (33 ft. - for iClass, Mifare, etc. reads serial # only)

uPASS

900 MHz Passive Technology



uPASS Target

The uPASS Target is a high-end reader that offers long-range identification using the UHF EPC Gen II Standard. It offers a read range of up to 10 meters (33 ft.) which makes it a solid solution for long-range identification of vehicles, people and rolling stock at industrial sites and logistic depots.



uPASS Reach

With a consistent read range up to 5 meters (16 ft.), the uPASS Reach is ideal for vehicle access to garages, gated communities and staff parking areas. It offers user friendly and convenient vehicle access, ensuring a smooth traffic flow.



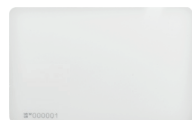
uPASS Access

The uPASS Access is an ultra-small UHF reader for hands-free door access. Typical applications include convenient door access in hospitals, office buildings, gated communities, care homes and universities where people are identified up to 2 meters (6.5 ft.).



UHF Windshield Tag

Thin windshield sticker tag that offers long-range vehicle identification for e.g. parking applications.



UHF Combi Card

ISO card with UHF and proximity or smartcard technology for both vehicle and building access.



UHF Heavy Duty Tag

UHF tag with rugged design for long term use in outdoor, industrial environments, and handicap access.



UHF Exterior Tag

Thin sticker tag that can be mounted on non metal surfaces of the exterior of a vehicle.

uPASS

Product Ordering & Part Numbers

UHF uPASS Readers (24VDC 2-3A Linear Power Supply Required for All Readers)

9217371	UHF uPASS Target Reader (12-16 ft. w/ Combi Card – 30 ft. w/ Windshield Tag)
---------	--

9218335	UHF uPASS Target Weather Hood
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5626595	UHF uPASS Target Reader Pole Mount Kit
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9945466	UHF uPASS Reach Reader (8-10 ft. w/Combi card – 16 ft. w/ Windshield Tag)
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7591152	UHF uPASS Reach Reader Weather Hood
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9875840	UHF uPASS Reach Reader Adjustable Mounting Kit
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9206663	UHF uPASS Access Reader (4-6 ft. w/ Combi Card) - People Access
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UHF uPASS Tags

9947418	Gen2 UHF Windshield Sticker Tag (Box of 25)
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9945946	Gen2 UHF Special-Order Windshield Sticker Tag (MOQ/25)
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9947426	Gen2 UHF Tamper Resist Windshield Sticker Tag (Box of 25)
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9946918	Gen2 UHF Special-Order Tamper Resist Windshield Sticker Tag (MOQ/25)
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9224726	Gen2 UHF External Sticker Tag (Package of 25)
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9215255	Gen2 UHF Special-Order External Sticker Tag (MOQ/25)
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9224718	Gen2 UHF Heavy Duty Tag - Exterior Mount/Hard Plastic Tag (Box of 10)
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9219641	Gen2 UHF Special-Order Heavy-Duty Tag (Exterior Mount/Hard Plastic) MOQ/10
---------	---

Cards

9955836	W26 Combi Cards (UHF/HID Prox) - Pre-Programmed - Bundle of 25
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9955844	W26 Combi Cards (UHF/HID Prox) - Pre-Programmed - Bundle of 100
---------	---

9959343	W26 Combi Cards (UHF/iClass) - Pre-Programmed
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9942343	UHF Mifare Combi Cards
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9943943	UHF Only ISO Card
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NOTE: All special-order items must include:

1. Wiegand Output (AKA Wiegand 26, 32, 37 etc.):
2. Facility Code
3. Start Number
4. Customer Name/Project Name
orders-ids-us@nedap.com

LUMO

Optical License Plate Reader



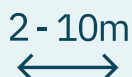
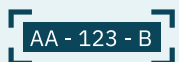
The first and only of its kind, the LUMO is a stand alone License Plate Reader. There's no need for software, as it's already built into the reader, and thus eliminating the need for any expensive software packages.

Incredibly, this stand alone system also has a built in Wiegand output that allows it to be easily added to any access control system. With the LUMO, LPR has never been so convenient.

The ANPR LUMO is an all-in-one license plate camera, including embedded software, analyzer and IR illuminator. With a range of action of 2 to 10 meters (6.5 to 33 ft.), the advanced camera ensures a smooth recognition of vehicles.

Typical applications include vehicle access control, automatic toll collection, free flow applications at parking facilities or other situations in which it not desirable to issue RFID tags.

If vehicles need to be granted access temporarily or incidentally such as for visitor management applications, the license plate camera is the perfect solution.



Part #9986138

Tuxen & Associates



Serving our Client Nedap in the Americas.

Contact Info

Customer Service Information to Note:

Phone directory: (No prompt, just dial desired ext. when the machine kicks on)

Phone: 417-339-7368

Menu Option 1: Shipping Department

Menu Option 2: Sales Department

Menu Option 3: Technical Assistance

Purchasing

You can obtain pricing from our Distribution Partners.

(List available upon request)

If you have direct pricing, POs must be submitted through: orders-ids-us@nedap.com

- All items ship out of Boston MA area.
- Normal Stock items have a normal lead time of 3-4 days.
- Special Order items have a lead time of 4-6 weeks once all proper information is received.

★ Tracking Information:

For tracking or status of a PO, please email with PO # in subject line to: orders-ids-us@nedap.com

Notable Installations

Utility Companies

Marathon Petroleum Canton, OH
Kansas City Power & Light
Dominion Energy Richmond, VA

Sport Venues

Lucas Oil Stadium (Indianapolis Colts)
WWE Corporate Facility
Gillette Stadium (New England Patriots)

Transportation

Alaska Department of Transportation
Des Moines (IA) Transit Bus System
Oregon Department of Transportation

Airports

Ottawa International Airport
Cincinnati Airport
Taxi Management (LAX)

Government & Military

Department of Homeland Security
(Buffalo, NY)
Fort Bragg Military Facility (Fayetteville, NC)
Kansas City IRS Entrance
Alaska DOT

Corporate Facilities

ESPN, Inc Headquarters
Bill Gates Foundation
Toyota Manufacturing

Casinos/Luxury Residential

Palace Casino (Las Vegas, NV)
Panorama Towers (Las Vegas, NV)
Oklahoma City

Education

Duke University Parking Facilities
Stanford University
Yale University Enforcement

Commercial Complex

Eaton Center (Toronto, CAN)
- Largest Transit Project in the World

Find out more at
www.nedapidentification.com





nedap

Technical Guide

TRANSIT Tech

2.45 GHZ Active Technology



TRANSIT Ultimate

Active Solutions by Nedap



Mounting Accessories:

Wall mount comes in the box with reader.



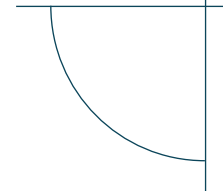
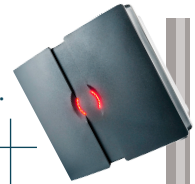
9215689 TRANSIT Ultimate Reader

9218327 TRANSIT Ultimate Weather Hood

5626595 TRANSIT Ultimate Pole Mount Kit

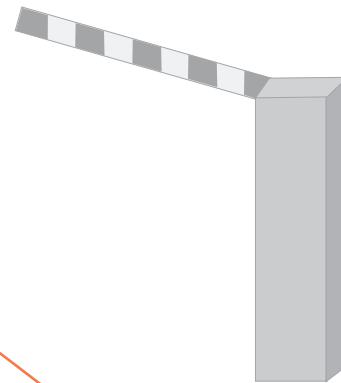
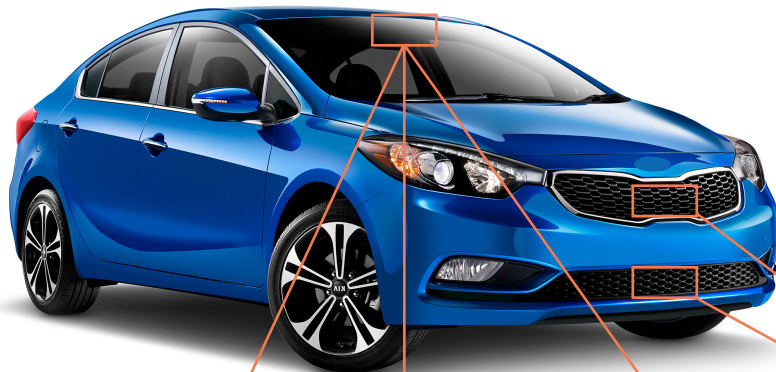


Reader angled down and across 45 degrees.



Best practice is to mount the reader 4-6 ft. above the highest tag placement.

8.5 - 10 ft.



33 ft. read range: Hands free vehicle identification tag with optional user activation for safe vehicle access. This is the most commonly used tag.



22 ft. read range: Credit card sized tag with dual side read capability for hands-free access. Typically used for building access, but a vehicle tag holder is available upon request.



33 ft. read range: Simultaneous driver and vehicle identification for secure perimeter access with authentication feature. Single ID, Dual ID Prox Booster options available. Smartcard Booster reads portion of card serial number as unique identifier.



33 ft. read range: The External HD tag can be mounted on the exterior or behind the grill, under the bumper, etc. using zip ties or outdoor rated double-sided tape. Please note, there can be no metal between the reader and tag. We recommend testing before permanently affixing to the location.

Best Practices

TRANSIT Ultimate

Power Supply 24VDC 2-3 Amp Linear Power Supply

Wiring

Power Supply wires:

14 gauge 2x1.5mm (recommended)

Wiegand Data wires:

30 gauge (recommended) shielded twisted 6

Take into account amperage drain when you have a run of wiring.

Calculate Amperage Drain:

<http://www.securityideas.com/howtoalvold.html>

Note:

Additional grounding techniques are necessary to provide improved grounding continuity between the Nedap reader and Access Control Panel. From the negative ground powering the control panel (12VDC) to the negative ground of the power supply powering the reader (24VDC).

☆ Wiegand Wiring:

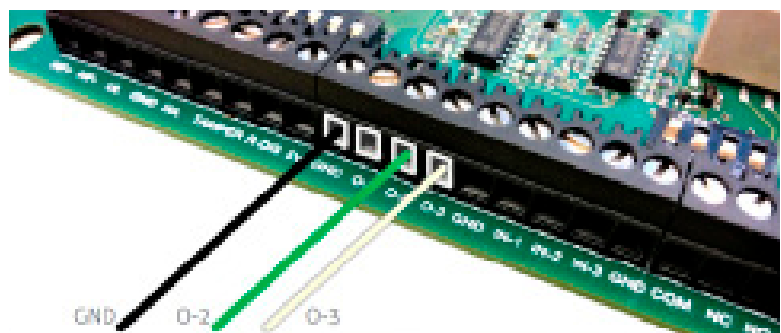
Data 0 – Green
Data 1 – White
Wiegand Ground – Black

☆ Power Supply:

DC+ – Red
DC- – Black

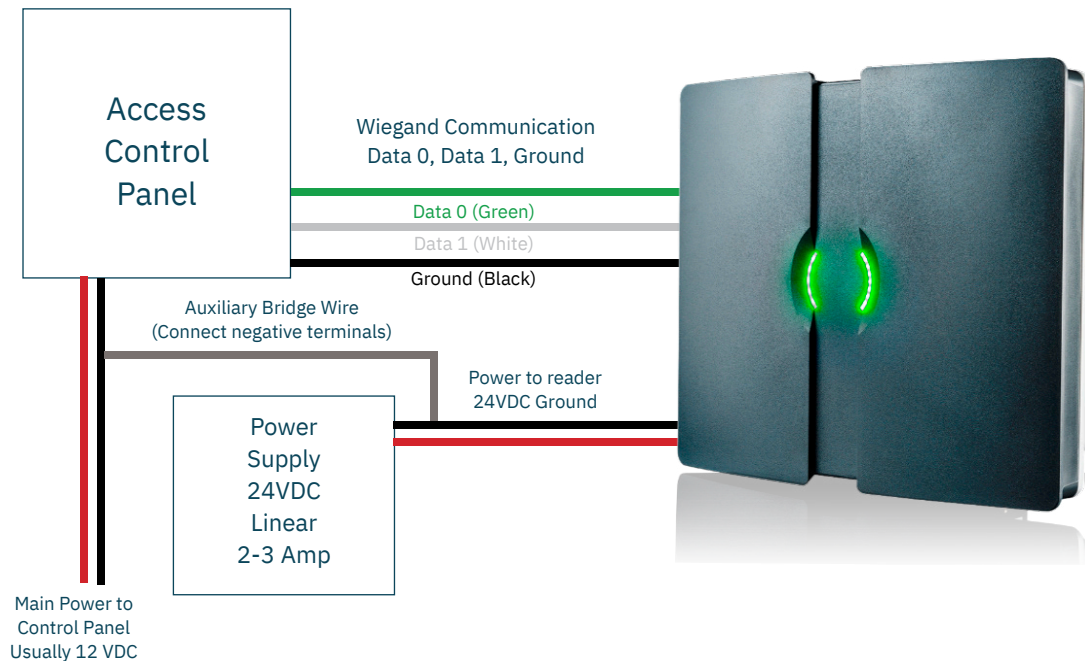
Connections	Wiegand	Magstripe	Barcode
0-1	-	Card Loaded	-
0-2	Data-0 (green)	Clock	-
0-3	Data-1 (white)	Data	Data
GND	Ground (black)	Ground	Ground

The picture below illustrates the Wiegand wiring.



Application Note

TRANSIT Grounding



When grounding our readers, you need to have both a Data Ground with the Data-0 and Data-1 wires and an additional power common ground. Our readers have a Data Ground output (labeled GND next to the O-1, O-2, and O-3 terminals). Connect the Data Ground to the door slot in your Access Control system. If the Access Control doesn't have a dedicated Data Ground, you can use the negative side of the door port power output. (The positive side won't be used.) This is only for the Data Ground.

To properly ground the 24VDC power, connect the negative side of the reader power supply to the negative side of the Access Control system power supply (not the door ports). If this is impossible to run, you can also connect to the metal housing of the Access Control system. Do not connect to the data ground. If you do, it will introduce noise into the system and will make the data will be corrupted.

You may need to download and install the following driver onto your computer:

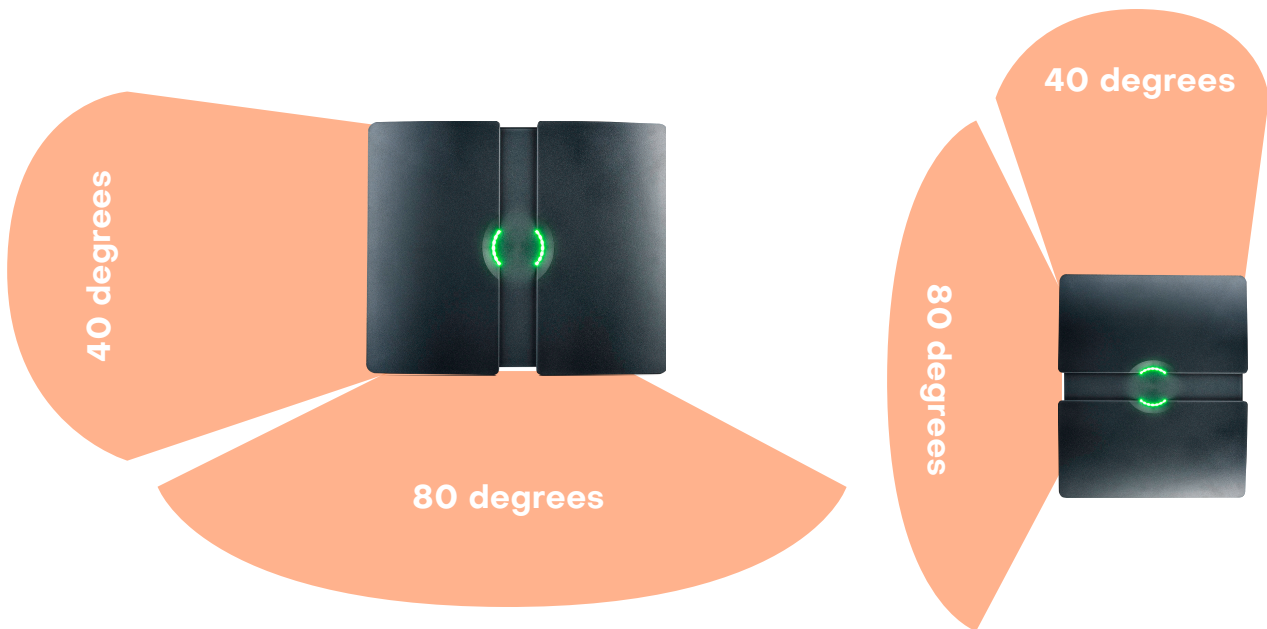
www.ftdichip.com/Drivers/VCP.htm. This will help determine your COM port on your laptop, right click on "My Computer", then select "Manage", then "Device Manager" > Ports.

Helpful Hints

Mounting & Installation

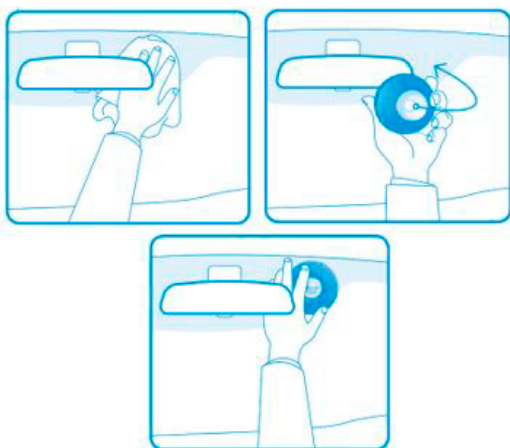
Reader Height and Read Lobe:

Best practice is to mount the reader **4-6 ft.** above the highest tag placement and angle 45 degrees down and across. The read lobe for the Ultimate is an ovalish shape beam of 40 degrees high by 80 degrees wide, when installed horizontally. When installed vertically, the detection lobe oval is 80 degrees high by 40 degrees wide. This is recommended for multilane use to prevent cross reads.



Installing TRANSIT Tags:

The concept is the same for Window Buttons, Boosters and Compact Tags.



Important Note:

Consistent mounting and placement of tags is important. We advise the placement of the Windshield Tag 2 inches from the top of the window and 0-4 inches from the rearview mirror to ensure the performance of the Windshield Tag. Usually, vehicles with metalized windshields (solar control coatings) have a non-metalized communication window behind and on either side of the rearview mirror. For more specific information, please reference your vehicle owner manual or contact your dealership. Compliance with these instructions is important and strongly recommended in order to ensure proper operation of the system.

TRANSIT Boosters

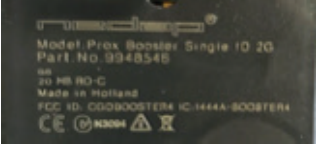

TRANSIT Ultimate Tag

Prox Booster 2G Single ID

For this product, the Booster reads the PROX card information and sends only the card's information 33 ft. to the reader and signals the panel to allow access. **Example 1**

Dual ID

For this product the Booster has an ID number. When the Booster is activated it sends both the Booster ID followed by the PROX ID in succession to create dual authentication. **Example 2**

1.		Message received by the Panel	
		AccSvc - CR-IN 64-Access Granted 10 47089	
2.		Message received by the Panel	
		AccSvc - CR-IN 64-Access Granted 10 12741 AccSvc - CR-IN 64-Access Granted 10 47089	

Smart Card Booster 2G Smart Card

For the Smartcard Booster, a portion of the Card Serial Number (CSN) is read and output as a unique ID # as we do not have the ability to access specific sector information for iCLASS.

Example 3 (How the reader translates the card).

The information is sent and the last 4 numbers (representing W26) of the hexadecimal string of the CSN is sent from the reader to the panel.

3.		
----	---	---

Message received by the Panel

AccSvc - CR-IN	64-Access Granted	10 8749
AccSvc - CR-IN	64-Access Granted	10 63380

Supported Cards:

- Mifare Classic*
- Mifare Ultralight*
- Mifare Desfire EV1*
- HID iCLASS CSN (SEOS is not supported)
- ISO 14443-3A CSN
- ISO 15693 UID (Legic Advant)
- Calypso PUPI and Free files

Communication Protocol

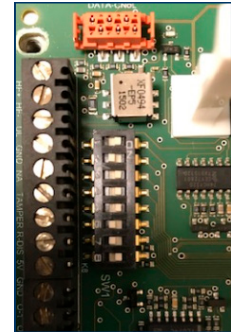
Wiegand Output/Structure

☆ Set with Dipswitches at the Reader Level

The Transit Reader has 8 Dip-Switches, which are used by the P85 firmware as described below. Refer to picture on the left for location of the bank of dip switches.

Communication Protocol	1	2	3	4	5	6	7	8
CR/LF 7E1	ON	ON	ON	X	X	X	X	X
CR/LF 8N1, Magstripe ISO 7811/2	OFF	ON	ON	X	X	X	X	X
CR/LF 7E1, Wiegand 26 (H10301)	ON	OFF	ON	X	X	X	X	X
CR/LF 8N1, Wiegand 32	OFF	OFF	ON	X	X	X	X	X
CR/LF 7E1, Wiegand 37 (H10302 / H10304)	ON	ON	OFF	X	X	X	X	X
CR/LF 8N1	OFF	ON	OFF	X	X	X	X	X
CR/LF 7E1, HID Corporate 1000	ON	OFF	OFF	X	X	X	X	X
CR/LF 8N1, Test protocol. See page 28.	OFF	OFF	OFF	X	X	X	X	X

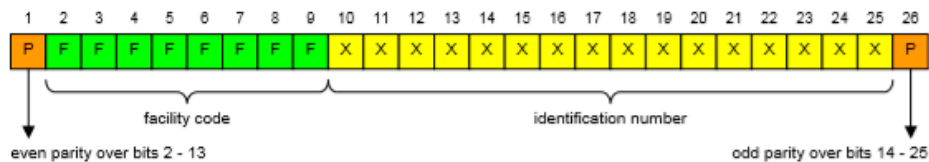
The selected communication protocol is only changed after a reset.



Wiegand 26 (H10301)

Wiegand 26 is the industry standard format. It consists of a leading parity bit, 8 facility code bits, 16 bits identification number and a trailing parity bit. The facility code and id-number are transmitted with the most significant bit first. The total number of bits is 1+8+16+1=26.

The leading parity bit is even calculated over the succeeding 12 bits. The trailing parity bit is odd calculated over preceding 12 bits.



Wiegand 37 (AWF = H10302) no Facility Code

(default setting when changed to Wiegand 37)

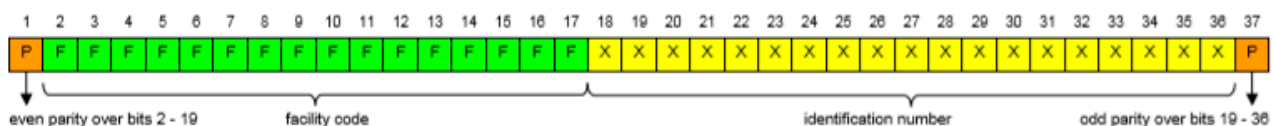
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The leading parity bit is even calculated over the succeeding 12 bits. The trailing parity bit is odd calculated over preceding 12 bits.



Wiegand 37 (AWF = H10304)

Wiegand 37 with facility code differs only from Wiegand 37 in that it has a facility code. The Wiegand 37 bit with facility code format contains 16 facility code bits and 19 bits identification number.



Additional communication protocol structures found in P85 Firmware.
Installation Guide on our partner portal at portal.nedapidentification.com

Software

TRANSIT P81 Test & Firmware Update Software

Note:

Readers come configured as Wiegand 26 with a Facility Code 10 out of the box and don't usually require any changes. The software is only needed for more advanced configurations.

P81 & Firmware Update Software:

The P81 & Firmware Update Software software can be downloaded through a guest account on our Partner Portal on the Nedap Identification Website.

www.portal.nedapidentification.com

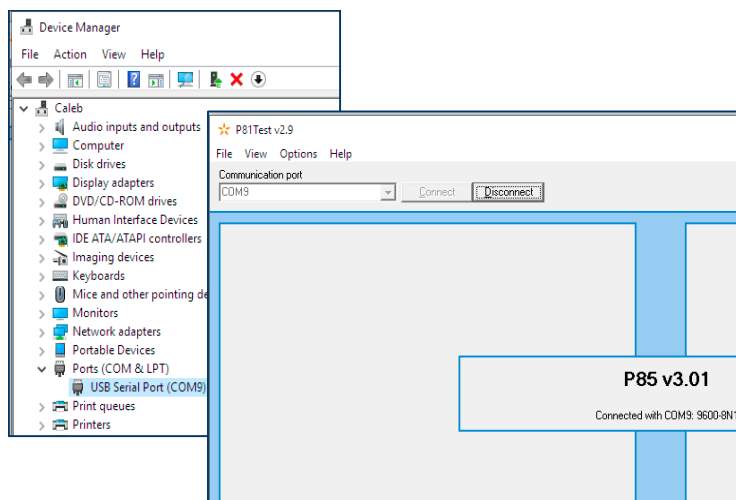
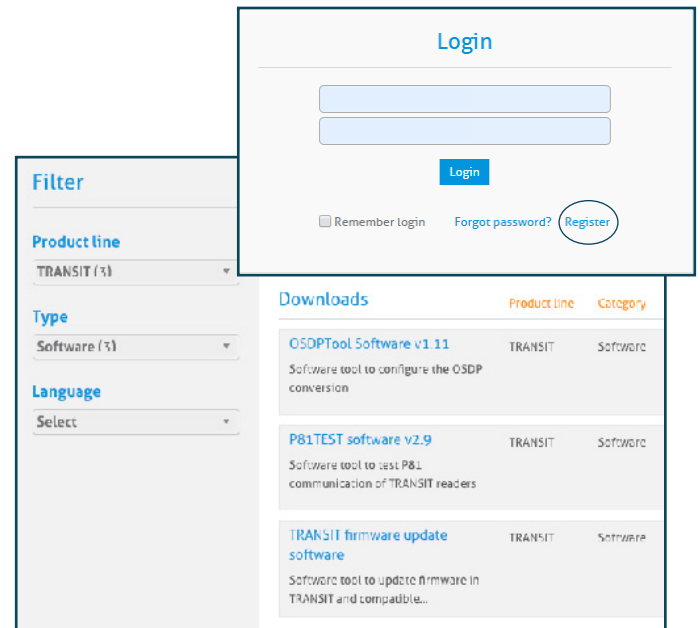
Downloads:

Download the P81 Test & Firmware Update Software

Log In – Select “TRANSIT” under Product Line –
Under Type – Select “Software”

You'll also need the corresponding driver for the reader to recognize the virtual COM Port. Download the driver from the link below:

http://www.ftdichip.com/Drivers/CDM/CDM21224_Setup.zip



COM Ports:

When connecting to the reader you can go to your Device Manager and confirm the COM Port to connect to. The software will sometimes auto populate the correct COM Port but there are instances where it's chosen randomly. Once you have the proper COM you can open the P81 Test Software and connect using the identified COM Port.

TRANSIT Tech Notes



uPASS Tech

900 MHz Passive Technology



uPASS Target

Passive Solutions by Nedap



Mounting Accessories:

Wall mount comes in the box with reader.



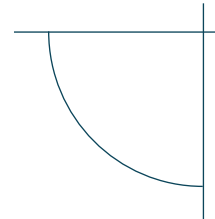
9217371 uPASS Target Reader

9218335 uPASS Target Weather Hood

5626595 uPASS Target Pole Mount Kit

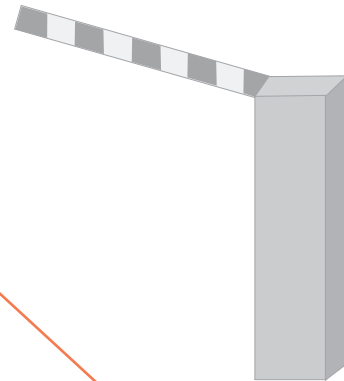
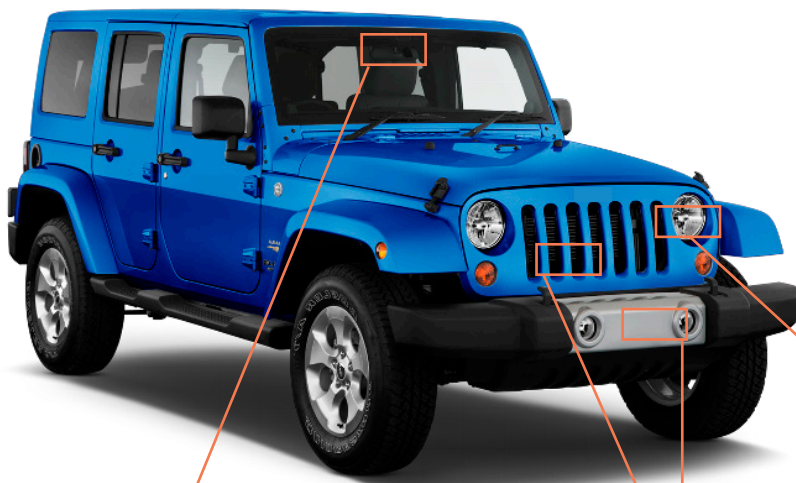


Reader angled down
and across 45 degrees.



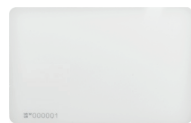
Best practice is to mount
the reader 4-6 ft. above
the highest tag placement.

8.5 - 10 ft.



Thin windshield sticker tag that offers long-range vehicle identification for a wide range of parking applications.

For special orders, the bar code and tag number will be printed on the back.



UHF only or Combi Card options available for both vehicle and building access.

In applications with cards, the reader should be mounted to the side of the vehicle and the cards presented through the driver's side window.



The External HD tag can be mounted on the exterior or behind the grill, under the bumper, etc. using zip ties or outdoor rated double-sided tape. Please note, there can be no metal between the reader and tag. We recommend testing tag placement before permanently affixing it.



Normally affixed on the headlamp. Clients have also had success placing it on other non-metal surfaces of the vehicle like the side view mirror, but we highly recommend testing the placement location of the tag before permanently affixing it.

uPASS Reach

Passive Solutions by Nedap



Mounting Accessories:

Wall mount comes in the box with reader.



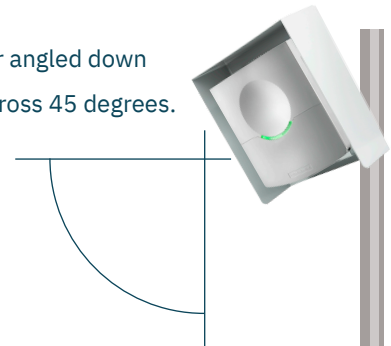
9945466 uPASS Reach Reader

7591152 uPASS Reach Weather Hood

9875840 uPASS Reach Pole Mount Kit

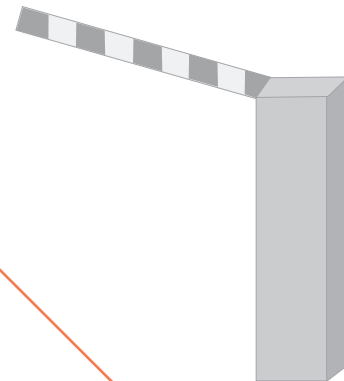


Reader angled down and across 45 degrees.



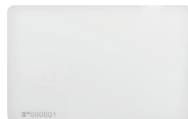
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Normally affixed on the headlamp. Clients have also had success placing it on other non-metal surfaces of the vehicle like the side view mirror, but we highly recommend testing the placement location of the tag before permanently affixing it.

uPASS Access

Passive Solutions by Nedap

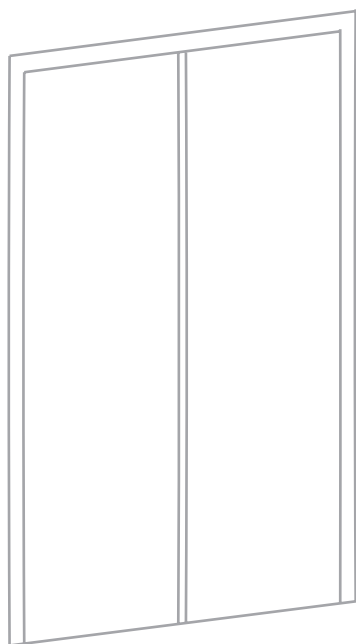


Limitation to all RFID Technology

Metal and water can block RFID reads. It's important to not have the card directly against the body. Separation can be achieved by using a lanyard, belt clip, etc. to help with consistent reads.



Cards can be badged either horizontally or vertically on a lanyard or belt clip.



The way it works

For optimal performance, readers should be mounted on the same side to stay consistent with the badging. Line of sight is needed in order to create accurate reads. The uPASS Access offers convenient secure door access. However, it's not a good solution for mustering or people tracking due to the fact that reads can be blocked.



Handicap Access

The uPass product line is a great solution for handicap entries. Because of the longer read range, it allows for an easy convenient access. A variety of tags are available for handicap or wheelchair access when needed.



Best Practices

uPASS Readers

Power Supply 24VDC 2-3 Amp Linear Power Supply

Wiring

Power Supply wires:

14 gauge 2x1.5mm (recommended)

Wiegand Data wires:

30 gauge (recommended) shielded twisted 6

Take into account amperage drain when you have a run of wiring.

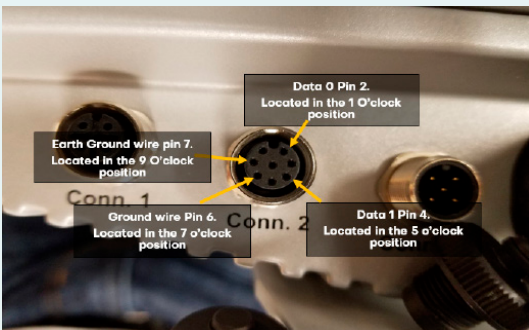
Calculate Amperage Drain:

<http://www.securityideas.com/howtoCALVOLD.html>

Note:

Additional grounding techniques are necessary to provide improved grounding continuity between the Nedap reader and Access Control Panel. From the negative ground powering the control panel (12VDC) to the negative ground of the power supply powering the reader (24VDC).

uPASS Target



uPASS Reach

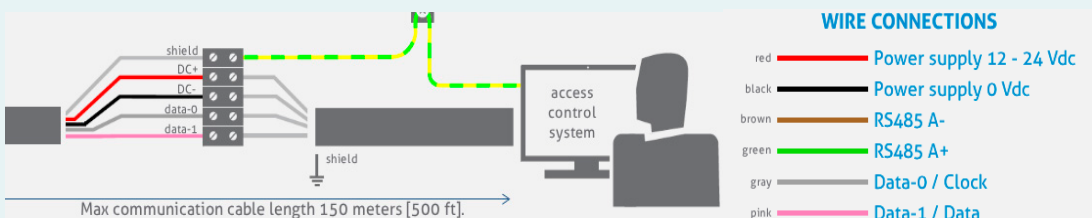


Your Data 0 will go into OUT-2
Your Data 1 will go into OUT-3
Your Wiegand Ground will go into GND



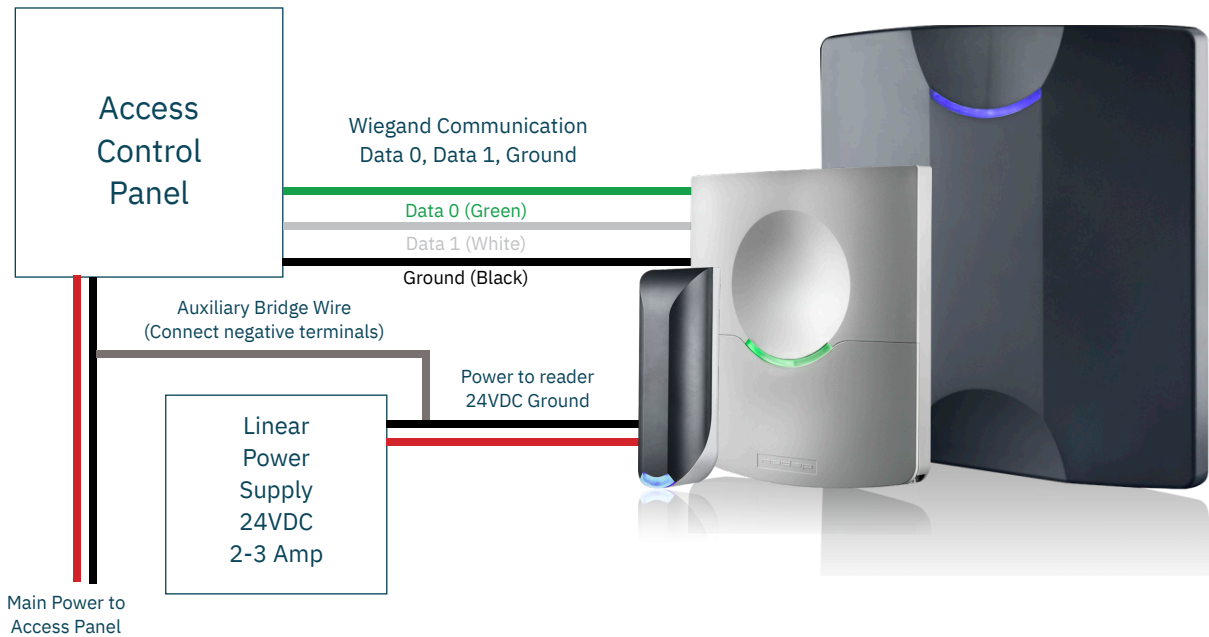
Do not insert the wire through the far-left port as this tends to bump the resistor and if this occurs, the resistor is needed to have the reader power up. Only insert the wires through the middle or far right port.

uPASS Access



Application Note

uPASS Grounding



When grounding our readers, you need to have both a Data Ground with the Data-0 and Data-1 wires and an additional power common ground. Our readers have a Data Ground output. Connect the Data Ground to the door slot in your Access Control system. If the Access Control doesn't have a dedicated Data Ground, you can use the negative side of the door port power output. (The positive side won't be used.) This is only for the Data Ground.

To properly ground the 24VDC power, connect the negative side of the reader power supply to the negative side of the Access Control system power supply (not the door ports). If this is impossible to run, you can also connect to the metal housing of the Access Control system. Do not connect to the data ground. If you do, it will introduce noise into the system and will make the data will be corrupted.

You may need to download and install the following driver onto your computer: www.ftdichip.com/Drivers/VCP.htm. This will help determine your COM port on your laptop, right click on "My Computer", then select "Manage", then "Device Manager" > Ports.

Best Practices

Mounting and Installation

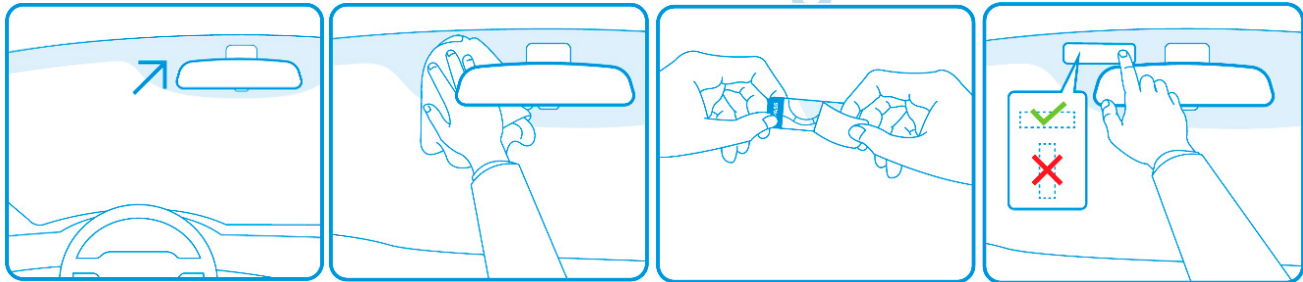
Important Note:

Application of the UHF Exterior Tag or vehicles may be subject to local legislation. Please verify if legal restrictions apply in your region. We advise to mount the tags on the same side as where the long-range reader is positioned. Compliance with these instructions is important and strongly recommended in order to ensure proper operation of the system.

Tag Installation Guide:

For full installation notes please visit our Partner Portal at www.portal.nedapidentification.com

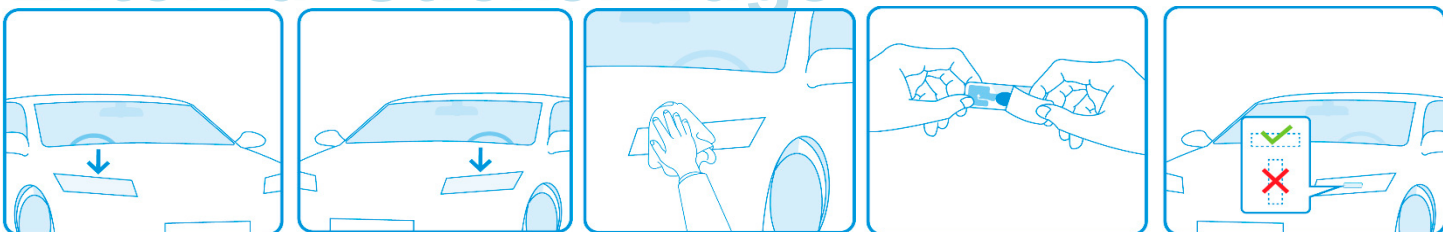
Windshield Sticker Tags



Important Note:

We advise the mounting of the tag on the same side, keeping towards the middle, as where the long-range reader is positioned. In case of metalized windshield, we advise the placement of the UHF windshield Tag 2 inches from the top of the window and 0-4 inches from the rearview mirror to ensure the performance of the Windshield tag. Usually, vehicles with metalized windshields (solar control coatings) have a non-metalized communication window behind and on either side of the rearview mirror of the vehicle. For more specific information, please reference your vehicle owner manual or contact your dealership. Compliance with these instructions is important and strongly recommended in order to ensure proper operation of the system.

External Sticker Tags



Best Practice is to have at least one box of external sticker tags on hand as higher end vehicles will have metalized content in the recommended application area for the Windshield Sticker tags.

Customers have had success placing the External Tags on other non-metal surfaces of the vehicle. We highly recommend testing to see if desired results are achieved before permanently affixing the tag to the location.

★ **Best practice is to mount the reader 4-6 ft. above the highest tag placement and angled down and across.**

UHF Tool

For 900 MHZ Passive Technology

This Software is not necessary for a new install unless certain configurations are required. It comes ready to use straight out of the box.

To download the software, a guest account to our partner portal is required:

www.portal.nedapidentification.com

Once logged in, you can select “uPASS” under Product Line and under Type Select “Software”.

Download: UHFTool Software

You’ll also need the corresponding driver for the reader to recognize the virtual COM Port.

Download the driver from the link below:

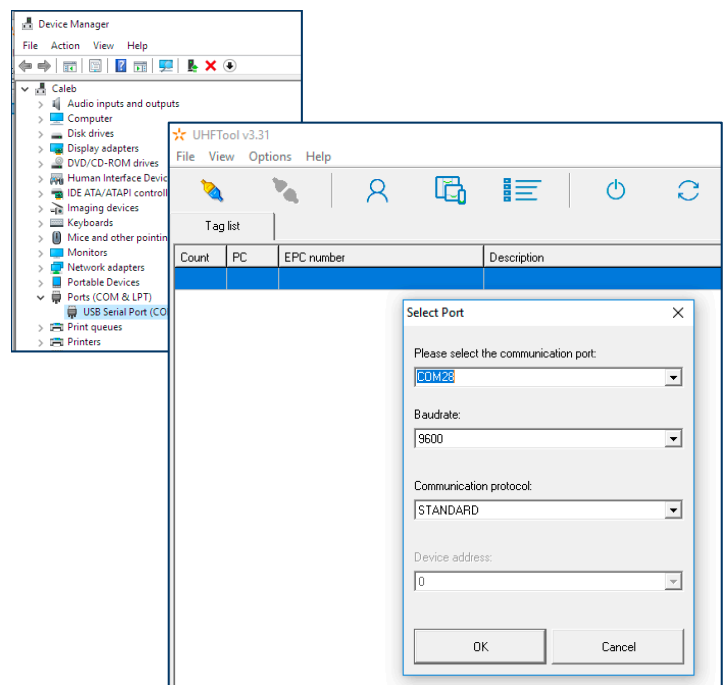
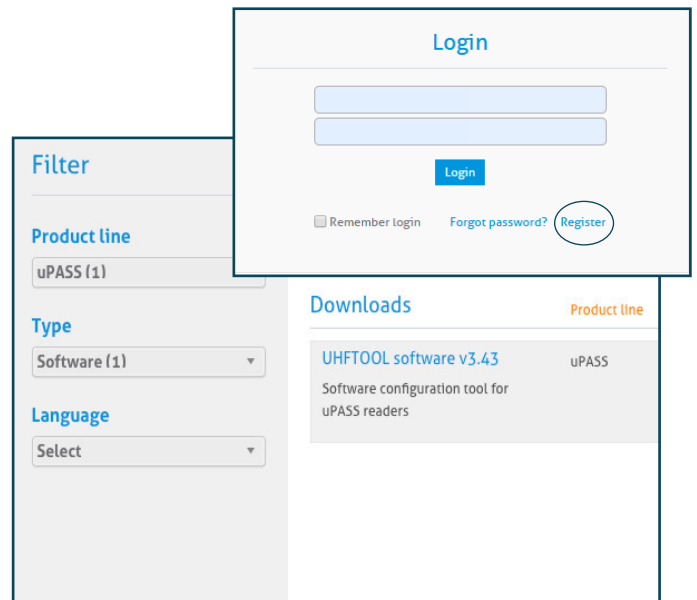
http://www.ftdichip.com/Drivers/CDM/CDM21224_Setup.zip

Once connected to the reader you can go to your Device Manager and confirm your COM Port connection. Then open the UHFTool and connect using the identified COM Port.

For the uPASS Access and Reach the Baud Rate is 9600.

For the uPASS Target the Baud Rate 115200.

Once connected you will see a message in the lower left corner of the UHFTool.



uPASS Notes



LUMO Tech

ANPR Automatic Number Plate Reader



LUMO

Nedap ANPR Solution



Mounting Accessories:

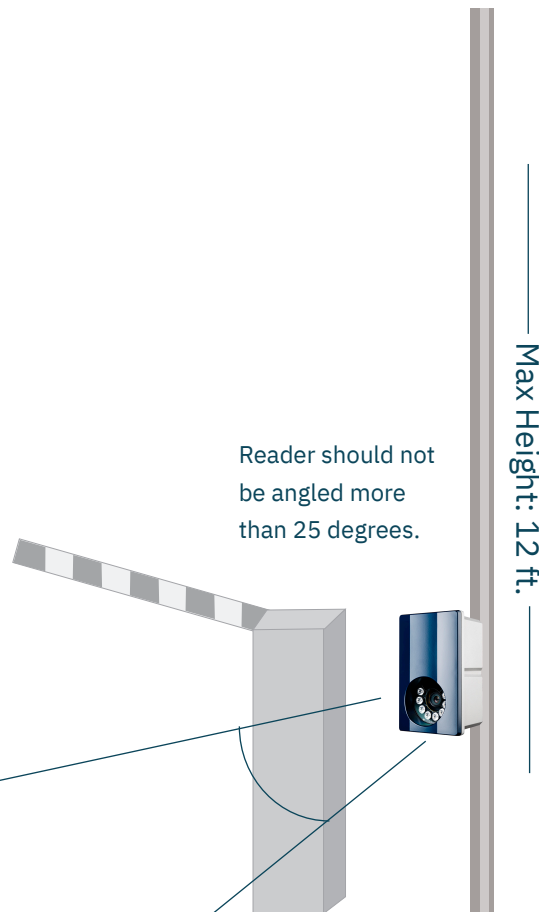
Reader comes with pole mounting kit.



9986138 LUMO Reader



Optimal Read Zone 8 - 33 ft.



If there is space behind the barrier and the sight is not blocked, then the best place for the LUMO is at bumper height (2 ft. height) about 6-9 ft. behind the barrier. A vehicle just in front of the barrier is still recognized in that case.

WIM Calculator:

The WIM Calculator is a free download that allows you to calculate the Wiegand number for your current license plate.

Example:

License Plate 890 MWG Read:

Whitelist match W26 FC13 #30940

★ WIM Calculator			
File View Help			
Number Plate:			
< enter plate >			
Wiegand 26-bit (SHA-1)		Wiegand 64-bit	
Number plate	Wiegand 26-bit (hex)	Facility code	ID number
890MWG	0x01AF1B9	13	30940

Best Practices

LUMO

Power Supply

24VDC 2-3 Amp Linear Power Supply

Best Practice is to wire the power supply on a separate run from the twisted 6 or the pigtail for the Wiegand wires to prevent noise.

Wiring

Power Supply wires:

14 gauge 2x1.5mm (recommended)

Weigand Data wires:

30 gauge (recommended) shielded twisted 6

Take into account amperage drain when you have a run of wiring.

Calculate Amperage Drain:

<http://www.securityideas.com/howtocalvold.html>

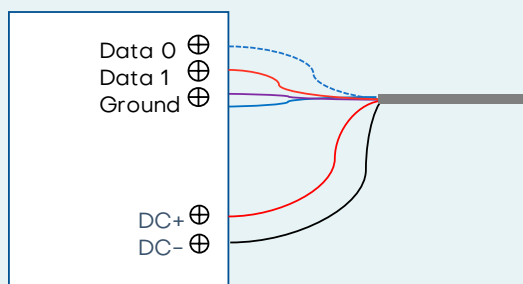
☆ Wiegand Wiring:

Data 0 – White
Data 1 – Brown
Wiegand Ground – Blue & Purple

(This is also the ground for your RS485 wire)

☆ Power Supply:

DC+ – Red
DC- – Black



LUMO Wiring

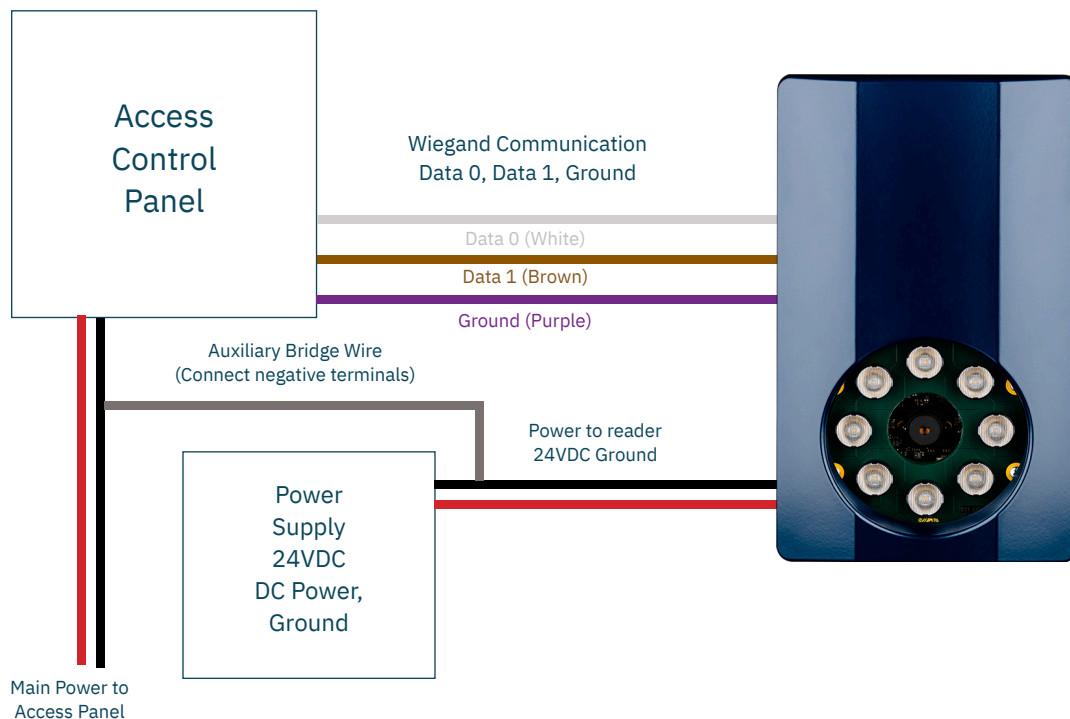
2.45 GHZ Active Technology

Power Supply		
+ 24 VDC 2-3 AMP		Red
- Ground 0 V		Black
- Ground 0 V		Blue
Wiegand		
Data 0		White
Data 1		Brown
RS-485/Wiegand Ground		Purple
RS 485		
RS-485 A		Yellow
- RS-485 B		Green
Digital Input 1		
+ Contact		Pink
- Contact		Gray
Digital Input 2		
+ Contact		Pink /White
- Contact		Blue/Brown
Relay Output 1		
Normally Open Contact		Green/White
Common Contact		Brown/Green
Relay Output 2		
Normally Open Contact		Yellow/White
Common Contact		Yellow/Green



Application Note

LUMO Grounding



When grounding our readers, you need to have both a Data Ground with the Data-0 and Data-1 wires and an additional power common ground. Our readers have a Data Ground output. Connect the Data Ground to the door slot in your Access Control system. If the Access Control doesn't have a dedicated Data Ground, you can use the negative side of the door port power output. (The positive side won't be used.) This is only for the Data Ground.

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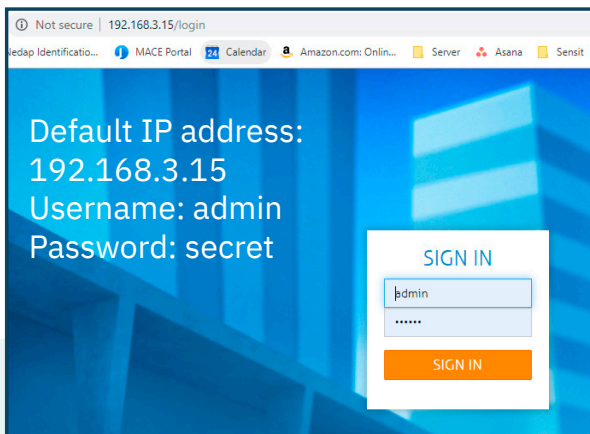
You may need to download and install the following driver onto your computer: www.ftdichip.com/Drivers/VCP.htm. This will help determine your COM port on your laptop, right click on "My Computer", then select "Manage", then "Device Manager" > Ports.

Quick Start Info

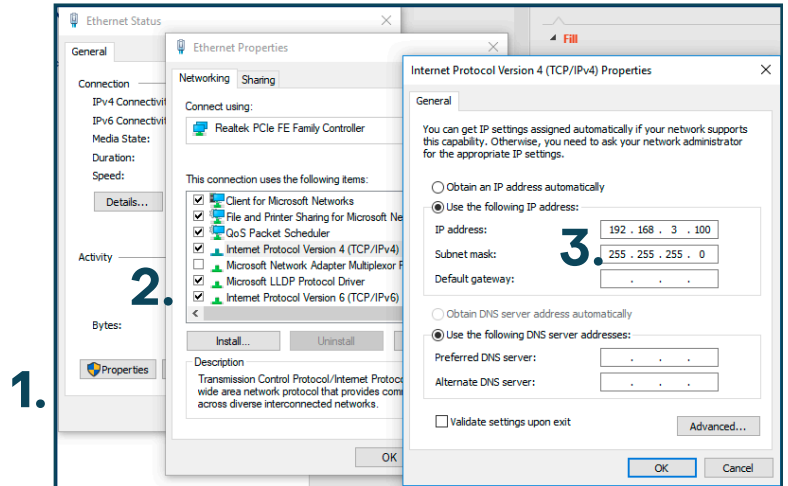
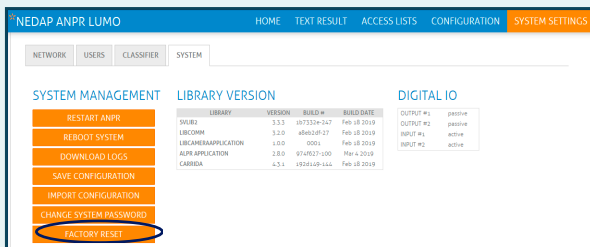
LUMO

1. Change your Internet Protocol version 4 to be in the same family as the LUMO in your computer settings.

2. Sign in to the LUMO via ethernet connection.



3. It is recommended to change the system username and login.



When connected occasionally the word “admin” will show up in the search bar. If this is the case, it will appear as there are no records. This can be fixed by clearing your browser's cache.

#	TIMESTAMP	PLATE	PLATE CONF	COUNTRY	COUNTRY CONF
No matching records found					

Showing 0 to 0 of 0 entries (filtered from 6 total entries)

First Previous Next Last

Simply erase the word “admin” and your results will appear.

#	TIMESTAMP	PLATE	PLATE CONF	COUNTRY	COUNTRY CONF
1	2019-05-22 20:57:09.899	829 TXX	100	US: FL	58
2	2019-05-22 20:57:04.848	336 WYZ	100	US: TX	66
3	2019-05-22 20:56:58.736	890 MWG	100	US: TX	56
4	2019-05-22 20:50:21.336	890 MWG	100	US: WI	52
5	2019-05-22 20:50:15.512	336 WYZ	100	US: WA	66
6	2019-05-22 20:50:08.873	82 9 TXX	100	US: CO	58

Showing 1 to 6 of 6 entries

Software

LUMO

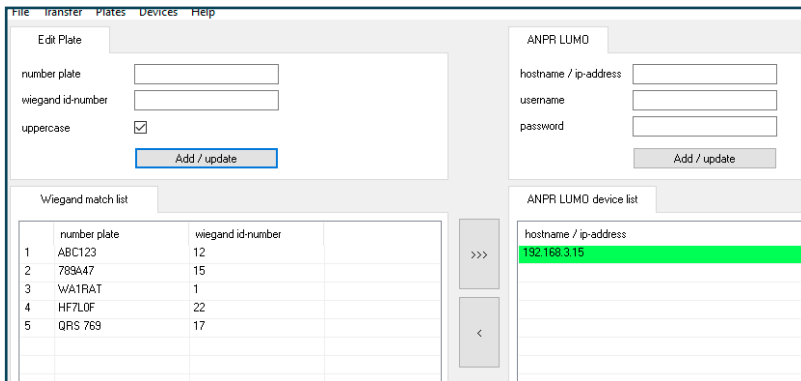
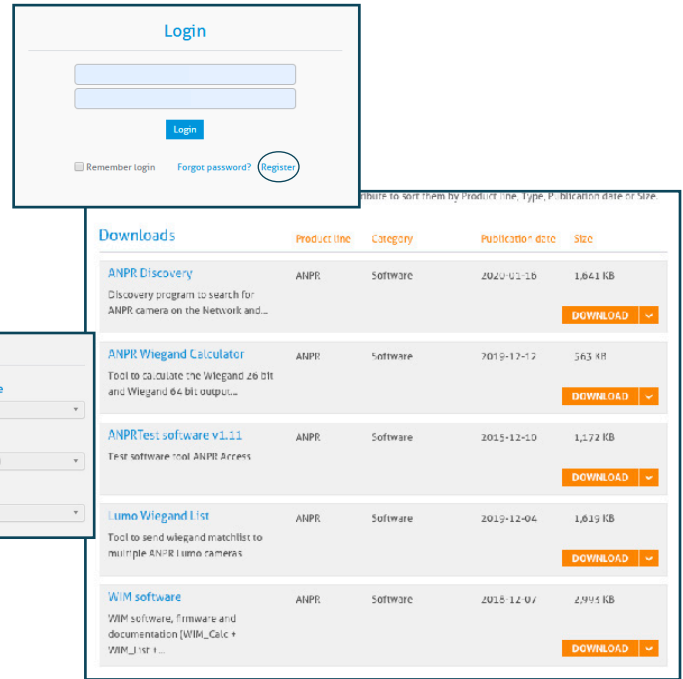
Download:

The LUMO software can be downloaded for free through a guest account on our Partner Portal on the Nedap Identification Website.

www.portal.nedapidentification.com

Once Registered, you can select “ANPR” under Product Line and under Type select “Software.”

Download the WIM Software.



This software allows you to input License Plate numbers into one location, and connect and push them to multiple devices. This is available on the portal.

WIM Calculator:

The WIM Calculator is a free download that allows you to calculate the Wiegand number for your current license place. You can calculate the W26 or W64 number by entering the plate# and clicking calculate.



LUMO Tech Notes



Tuxen & Associates



Serving our Client Nedap in the Americas.

Contact Info

Customer Service Information to Note:

Phone directory: (No prompt, just dial desired ext. when the machine kicks on)

Phone: 417-339-7368

Menu Option 1: Shipping Department

Menu Option 2: Sales Department

Menu Option 3: Technical Assistance

Purchasing

You can obtain pricing from our Distribution Partners.

(List available upon request)

If you have direct pricing, POs must be submitted through: orders-ids-us@nedap.com

- All items ship out of Boston MA area.
- Normal Stock items have a normal lead time of 3-4 days.
- Special Order items have a lead time of 4-6 weeks once all proper information is received.

★ Tracking Information:

For tracking or status of a PO, please email with PO # in subject line to: orders-ids-us@nedap.com

