EN

Installation and Configuration

AEOS QR code

Version 2 | 16-10-2018

nedap | security management

www.nedapsecurity.com

Date	Version	Changes
16-10-2018	2	Corrections in AEmon event monitor example 1
18-09-2018	1	New document

Contents

1. Introduction

AEOS lets you generate and print QR codes and use them as identifiers. This feature is available in AEOS 3.4 and newer versions.

Whether they're printed or digital, QR codes replace the need for physical plastic cards, which makes using them as identifiers a cost-effective, smart and sustainable option. It saves the costs of buying, handling and printing plastic cards. And, while QR code solutions aren't suitable for high-security areas, they can help to improve the efficiency of handling visitors in common areas of buildings or in car parks.

A typical example of how they can be used is to send a QR code to a visitor's mobile phone, which allows them to enter a car park without having to call reception. They just present the QR code to the QR reader to gain access.

QR code model 2

AEOS QR codes are based on QR code model 2. They contain the customer code, identifier number, carrier name and validity. You can use **any** QR reader that supports QR code model 2 and OSDP or Wiegand to scan them.

OSDP or Wiegand protocol

The AEOS QR code functionality uses either the OSDP or the Wiegand protocol.

MACE MM QR reader

In this manual, we use the Nedap MACE MM QR Reader to read the AEOS QR codes. This device includes a QR reader that enables reading QR-codes displayed on a smartphone. For more information on the Nedap MACE MM QR Reader, please visit www.nedapidentification.com.

About this manual

This manual describes how you can use QR codes as identifiers in AEOS.

Chapter 2 shows you how the reader hardware must be connected to the AEOS Blue controller.

The next chapters provide step-by-step instructions to configure the QR code reader and AEmon for an OSDP interface (chapter 3 and 4) or a Wiegand interface (chapter 5 and 6).

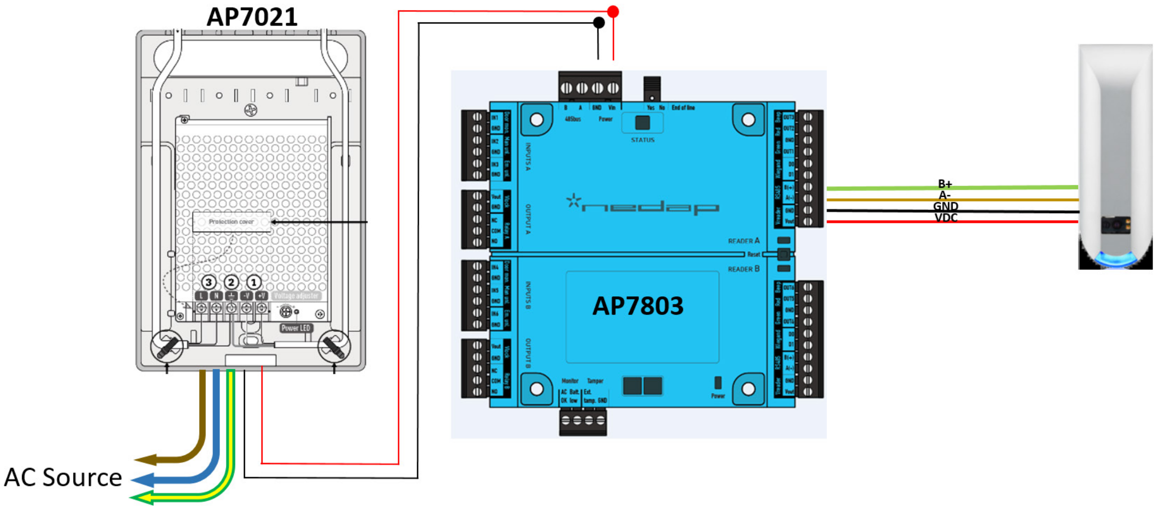
Chapter 7 and 8 describe how to configure AEOS and how to actually issue QR code identifiers.

When a QR code is presented to the QR reader, an event must show in the AEmon event monitor. How you can check this is described in chapter 9.

Finally, chapter 10 contains recommendations to optimise QR code security by using different AEOS options and check AEOS system property settings.

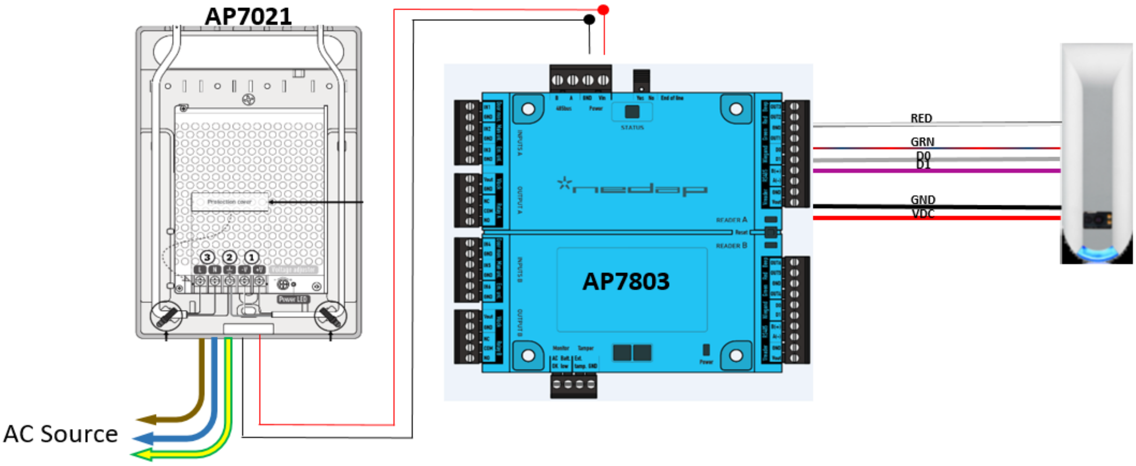
2. Connection overview

2.1 Connection overview for an OSDP interface



AP7803		MACE reader
Green Red Beep	OUT3	
	OUT2	
	GND	
	OUT1	
Wiegand	D0	
	D1	
RS485	B(+)	B+ (GREEN)
	A(-)	A- (BROWN)
Vreader	GND	GND (BLACK)
	Vout	VDC (RED)

2.2 Connection overview for a Wiegand interface



AP7803		MACE reader
Green Red Beep	OUT3	Beeper_In (BLUE)
	OUT2	LED_NA_IN (WHITE)
	GND	
	OUT1	LED_UL_IN (RED/BLUE)
Wiegand	D0	DATA 0 (GRAY)
	D1	DATA 1 (PINK)
RS485	B(+)	
	A(-)	
Vreader	GND	GND (BLACK)
	Vout	VDC (RED)

3. Configuring the QR code reader (MACE reader) for OSDP

AEOS QR codes are based on QR code model 2. They contain the customer code, identifier number, carrier name and validity. You can use **any** QR reader that supports QR code model 2 and OSDP or Wiegand to scan them. In this manual, we use the Nedap MACE MM QR Reader to read the AEOS QR codes. This device includes a QR reader that enables reading QR-codes displayed on a smartphone. For more information on the Nedap MACE MM QR Reader, please visit www.nedapidentification.com.

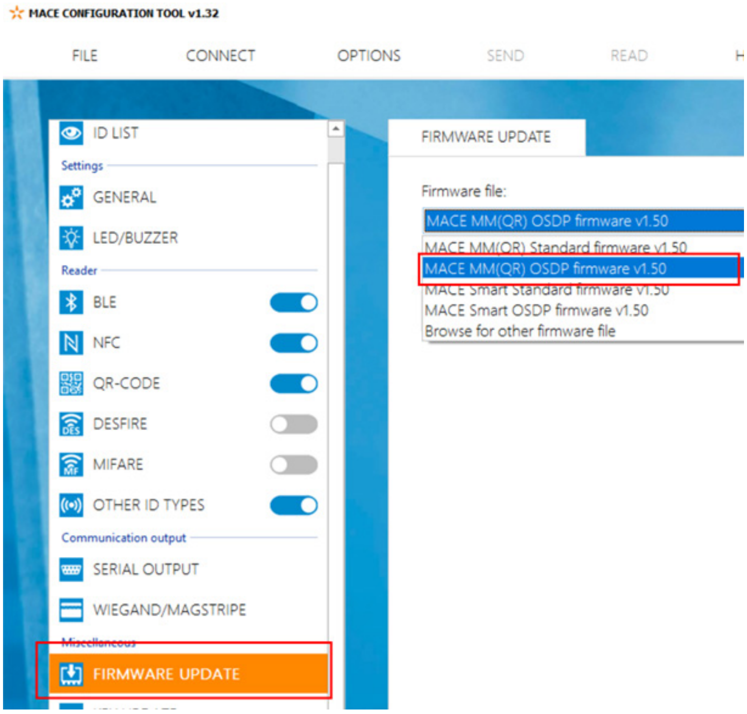
The information in the AEOS QR code is encoded as a text (ASCII) string value. The MACE MM QR reader can only push the string value to its serial interface, which is the USB or RS485. After removing the text characters, the MACE MM QR reader can convert the value to HEX or DEC. In this example, we will keep using the text string.

In order to receive the string value, the AEOS Blue controller must connect to MACE MM QR reader using RS485 as OSDP interface. Both the MACE reader and the AEOS Blue controller must use the OSDP protocol. Therefore, the firmware for both the MACE reader and the AEOS Blue controller must be changed to OSDP.

To configure the MACE reader for OSDP, take the following steps:

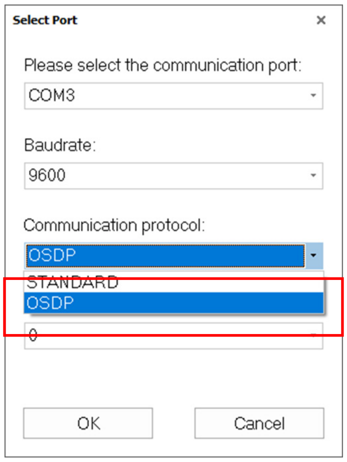
Step 01 Change the MACE reader firmware to OSDP

1. Go to www.nedapidentification.com. Download and install the *MACE configuration tool.*
2. Connect the MACE MM QR reader via USB to the computer.
3. Open the MACE configuration tool.
4. Click **Firmware update**.
5. Click the 'open folder' icon and select the **MACE MM QR OSDP firmware**.
6. Click **Update.**


MACE CONFIGURATION TOOL v1.32
FILE
CONNECT
OPTIONS
SEND
READ
ID LIST
Settings
GENERAL
LED/BUZZER
Reader
BLE
NFC
QR-CODE
DESFIRE
MIFARE
OTHER ID TYPES
Communication output
SERIAL OUTPUT
WIEGAND/MAGSTRIPE
Miscellaneous
FIRMWARE UPDATE
FIRMWARE UPDATE
Firmware file:
MACE MM(QR) OSDP firmware v1.50
MACE MM(QR) Standard firmware v1.50
MACE MM(QR) OSDP firmware v1.50
MACE Smart Standard firmware v1.50
MACE Smart OSDP firmware v1.50
Browse for other firmware file

After changing the firmware, the MACE reader will be disconnected. You must reconnect the MACE MM QR reader using the OSDP protocol.

7. Click **Connect.**
8. Select **OSDP** and check the other settings.
9. Click **OK.**


Select Port

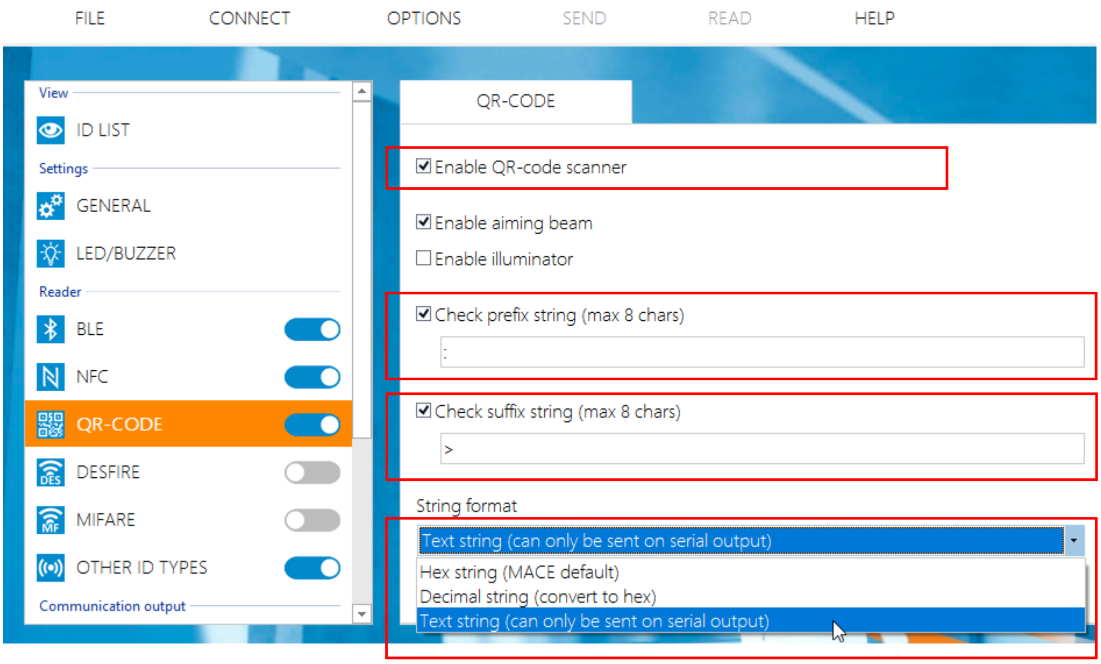
Please select the communication port: COM3

Baudrate: 9600

Communication protocol: OSDP

Step 02 Configure the QR-code function in the MACE MM QR reader

1. Go to **Options > User mode.** Switch to the **Advanced** user mode.
2. Enable the **QR-code** function.



☑ Enable QR-code scanner

☑ Enable aiming beam

□ Enable illuminator

☑ Check prefix string (max 8 chars)

:

☑ Check suffix string (max 8 chars)

>

String format

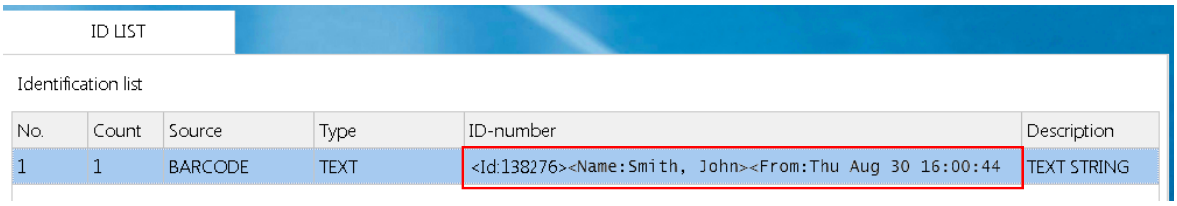
Text string (can only be sent on serial output)

- Hex string (MACE default)
- Decimal string (convert to hex)
- Text string (can only be sent on serial output)

3. Set the **check prefix string** to **:** and the **check suffix string** value to **>**.
   These options are used to determine the ID number location. The MACE MM QR reader needs them to push only the ID-number and not the other characters. The Check prefix string is **:** because AEOS puts this character in front of the ID number. The Check suffix string is **>** because AEOS puts this character behind the ID number.

Example

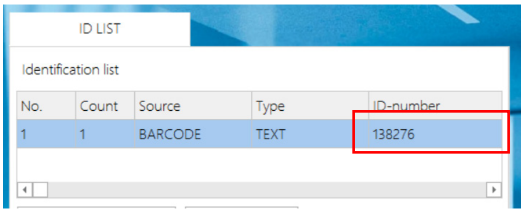
Without these settings:



Identification list

No.	Count	Source	Type	ID-number	Description
1	1	BARCODE	TEXT	<Id:138276><Name:Smith, John><From:Thu Aug 30 16:00:44	TEXT STRING

With these settings:

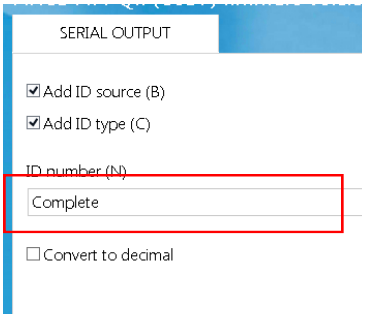


ID LIST

Identification list

No.	Count	Source	Type	ID-number
1	1	BARCODE	TEXT	138276

4. Set the string format to **Text string**.
   This option reads and pushes the value (ID-number) as text to AEOS.
5. Click **Serial output**. Set **ID-number** to **Complete**.



SERIAL OUTPUT

☑ Add ID source (B)

☑ Add ID type (C)

ID number (N)

Complete

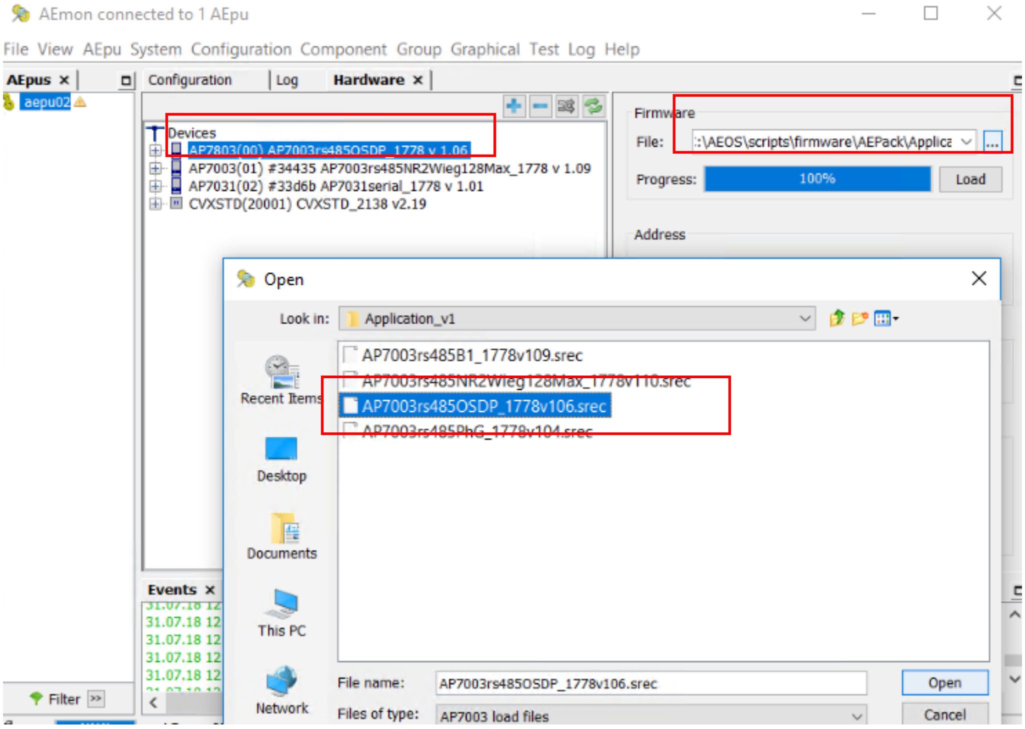
☐ Convert to decimal

4. Configuring AEmon for OSDP

To configure AEmon for the QR code function via OSDP, take the following steps:

Step 01 Configure the AEOS Blue controller in AEmon

1. Start AEmon.
2. Select the AEOS Blue controller you want to update.
3. Go to **View > Hardware**.
4. In the **Firmware** section at the right side of the window, click the **[...]** button next to the File field. This opens the C:\AEOS\scripts\firmware folder. The different firmware versions are stored in different subfolders.
5. From the **Files of type** drop-down list, select the file type that is compatible with the selected hardware. This will only show the firmware files that are compatible with your selected hardware.
6. Select the correct OSDP firmware file from the correct folder.
7. Click **Open**.
8. Click the **Load** button to start the firmware update.



AEmon connected to 1 AEpu

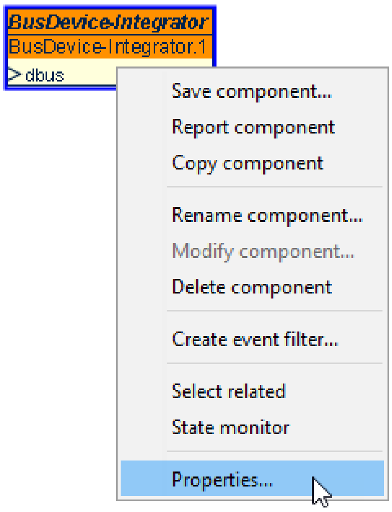
Devices
AP7803(00) AP7003rs485OSDP_1778 v 1.06
AP7003(01) #34435 AP7003rs485NR2Wieg128Max_1778 v 1.09
AP7031(02) #33d6b AP7031serial_1778 v 1.01
CVXSTD(20001) CVXSTD_2138 v2.19

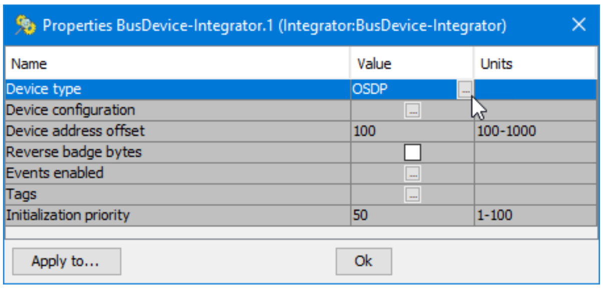
Firmware
File: :\AEOS\scripts\firmware\AEPack\Applica
Progress: 100%

Open
Look in: Application_v1
AP7003rs485B1_1778v109.srec
AP7003rs485NR2Wieg128Max_1778v110.srec
AP7003rs485OSDP_1778v106.srec
AP7003rs485PhG_1778v104.srec
File name: AP7003rs485OSDP_1778v106.srec
Files of type: AP7003 load files

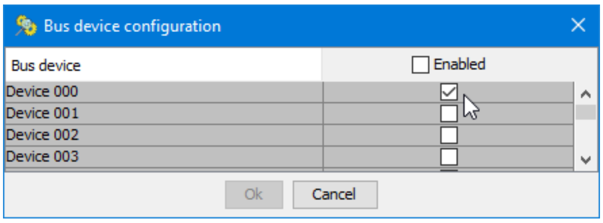
Step 02 Configure the MACE reader as OSDP reader in AEmon

1. In AEmon, create/open the configuration (see the *AEOS Access Points and Entrances* manual).
2. Right-Click the **BusDevice-Integrator** AEbc, and click **Properties**.
3. Open the **device type** editor and select **OSDP**. Click **OK**.
4. Open the **device configuration** editor and enable **Device 000**. Click **OK**.
5. Press **CTRL+E** and click **Yes** to deploy the configuration.



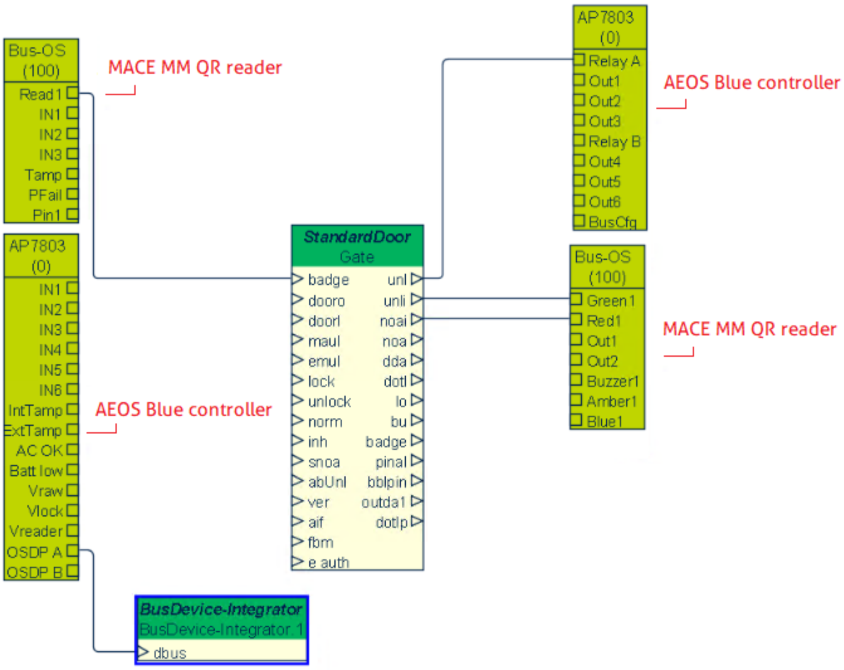

Properties BusDevice-Integrator.1 (Integrator:BusDevice-Integrator)

Name	Value	Units
Device type	OSDP	
Device configuration		
Device address offset	100	100-1000
Reverse badge bytes	□	
Events enabled		
Tags		
Initialization priority	50	1-100


Bus device configuration

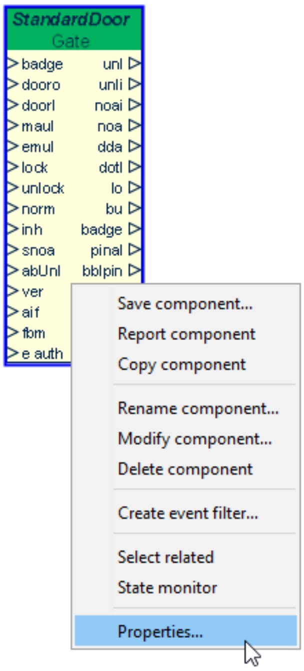
Bus device	□ Enabled
Device 000	☑
Device 001	□
Device 002	□
Device 003	□

Configuration example



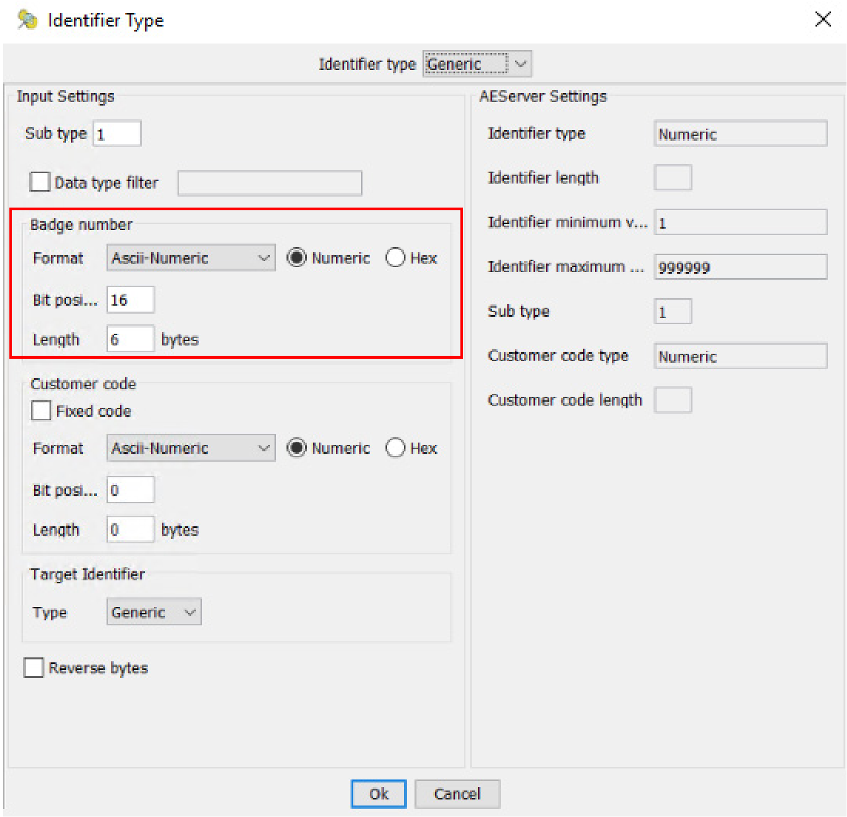
Step 03 Configure the identifier type in AEmon

1. Right-Click the **StandardDoor** AEbc, and click **Properties**.



2. Open the **Identifier type** editor and select **Generic**.
3. Set the **Format** to **Ascii-numeric** and select **Numeric**
4. Set the **Bit position** to **16**. Check the other settings. In this example, we set the **Length** to **6** bytes (for we use a 6-digit number). Click **OK**.
5. Press **CTRL+E** and click **Yes** to deploy the configuration.

The identifier type settings must match the settings in AEOS, see chapter 7.



Identifier Type

Identifier type: Generic

Input Settings

Sub type: 1

□ Data type filter

Badge number

Format: Ascii-Numeric ● Numeric ○ Hex

Bit posi...: 16

Length: 6 bytes

Customer code

□ Fixed code

Format: Ascii-Numeric ● Numeric ○ Hex

Bit posi...: 0

Length: 0 bytes

Target Identifier

Type: Generic

□ Reverse bytes

AEServer Settings

Identifier type: Numeric

Identifier length:

Identifier minimum v...: 1

Identifier maximum ...: 999999

Sub type: 1

Customer code type: Numeric

Customer code length:

5. Configuring the QR code reader (MACE reader) for Wiegand

AEOS QR codes are based on QR code model 2. They contain the customer code, identifier number, carrier name and validity. You can use **any** QR reader that supports QR code model 2 and OSDP or Wiegand to scan them. In this manual, we use the Nedap MACE MM QR Reader to read the AEOS QR codes. This device includes a QR reader that enables reading QR-codes displayed on a smartphone. For more information on the Nedap MACE MM QR Reader, please visit www.nedapidentification.com.

The information in the AEOS QR code is encoded as a text (ASCII) string value. After removing the text characters, the MACE MM QR reader can convert the value to HEX or DEC. In this example, the MACE MM QR reader will convert the value to DEC.

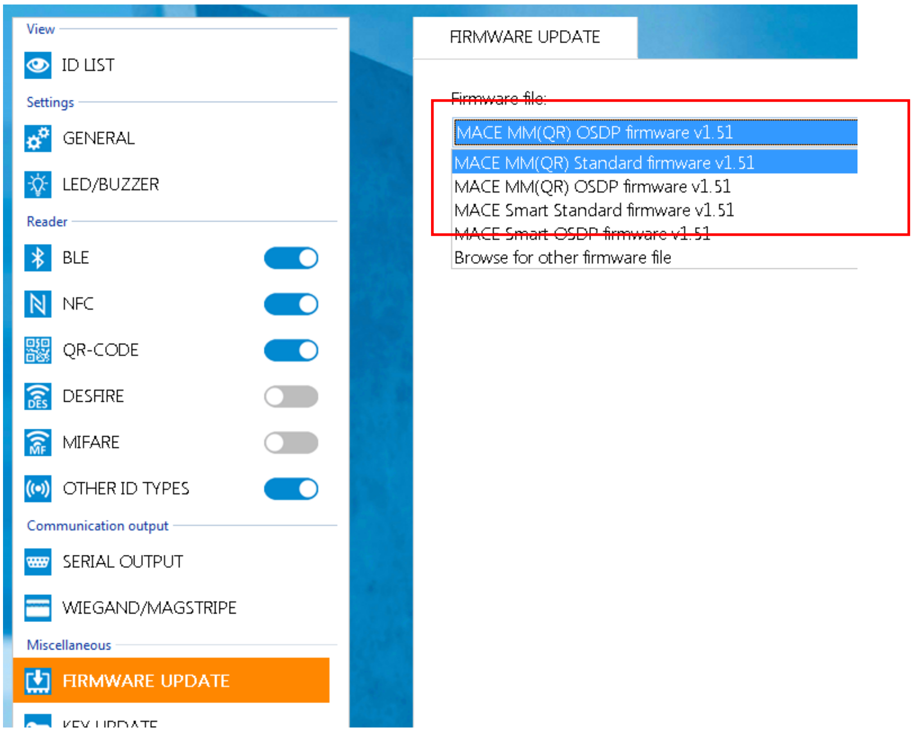
To configure the MACE reader for Wiegand, take the following steps:

Step 01 Change the MACE reader firmware to Standard

1. Go to www.nedapidentification.com. Download and install the *MACE configuration tool*.
2. Connect the MACE MM QR reader via USB to the computer.
3. Open the MACE configuration tool.
4. Check the firmware.

By default, the MACE reader already uses the standard firmware. Only when the default setting has been changed, you must reset it to **Standard**.

5. Click **Firmware update**.
6. Click the 'open folder' icon and select the **MACE MM QR Standard firmware**.
7. Click **Update.**



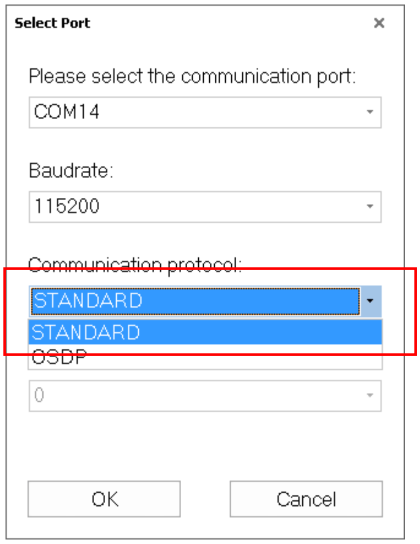
Firmware file:

MACE MM(QR) OSDP firmware v1.51

MACE MM(QR) Standard firmware v1.51
MACE MM(QR) OSDP firmware v1.51
MACE Smart Standard firmware v1.51
MACE Smart OSDP firmware v1.51
Browse for other firmware file

After changing the firmware, the MACE reader will be disconnected. You must reconnect the MACE MM QR reader using the STANDARD protocol.

8. Click **Connect.**
9. Select **STANDARD** and check the other settings.
10. Click **OK.**



Please select the communication port:
COM14

Baudrate:
115200

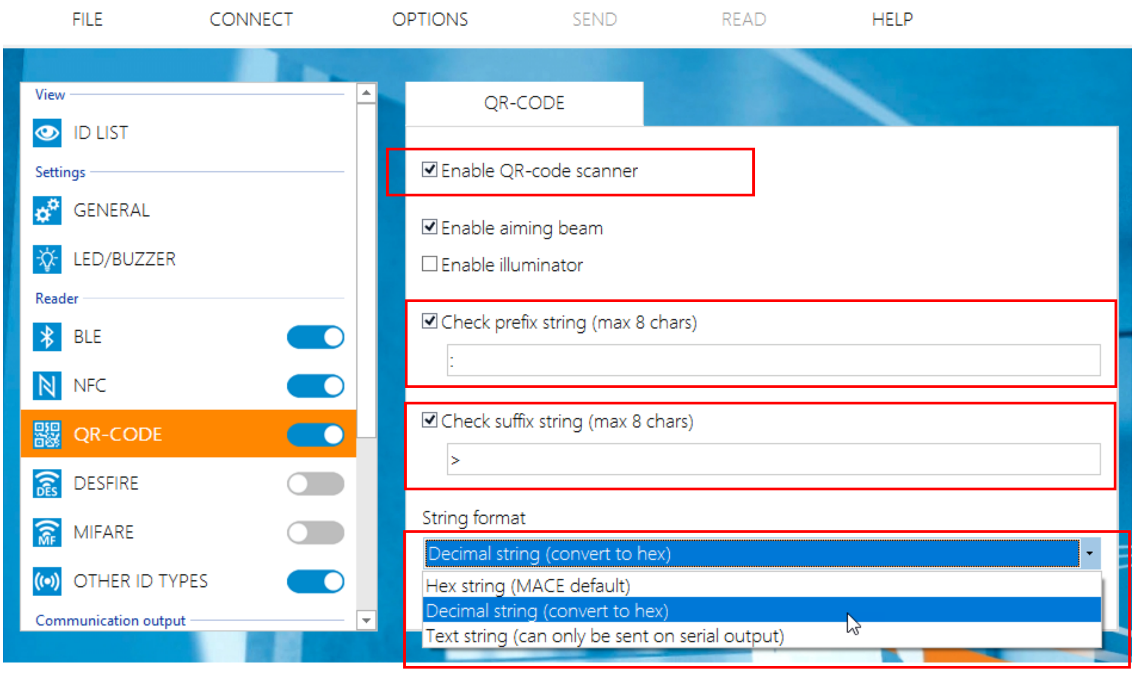
Communication protocol:
STANDARD

STANDARD
OSDP

0

Step 02 Configure the QR-code function in the MACE MM QR reader

1. Go to **Options > User mode.** Switch to the **Advanced** user mode.
2. Enable the **QR-code** function.



☑ Enable QR-code scanner

☑ Enable aiming beam

□ Enable illuminator

☑ Check prefix string (max 8 chars)

:

☑ Check suffix string (max 8 chars)

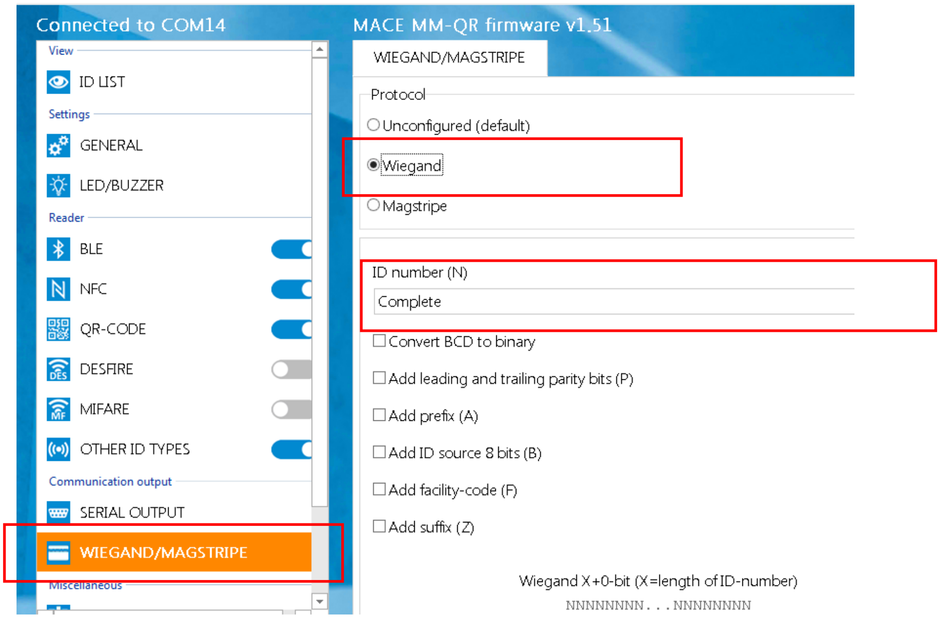
>

String format

Decimal string (convert to hex)

Hex string (MACE default)
Decimal string (convert to hex)
Text string (can only be sent on serial output)

3. Set the **check prefix string** to **:** and the **check suffix string** value to **>**.
These options are used to determine the ID number location. The MACE MM QR reader needs them to push only the ID-number and not the other characters. The Check prefix string is **:** because AEOS puts this character in front of the ID number. The Check suffix string is **>** because AEOS puts this character behind the ID number.
4. Set the string format to **Decimal string**.
This option reads and pushes the value (ID-number) as decimal string to AEOS.
5. Click **Wiegand/Magstripe**. Select **Wiegand** and set the **ID-number** to **Complete**.



MACE MM-QR firmware v1.51

WIEGAND/MAGSTRIPE

Protocol

○ Unconfigured (default)

● Wiegand

○ Magstripe

ID number (N)

Complete

□ Convert BCD to binary

□ Add leading and trailing parity bits (P)

□ Add prefix (A)

□ Add ID source 8 bits (B)

□ Add facility-code (F)

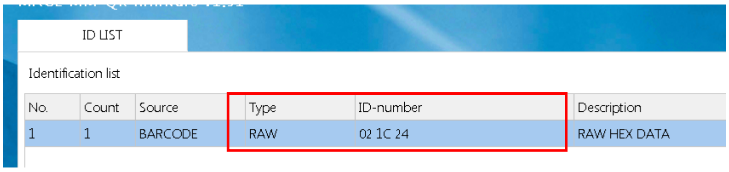
□ Add suffix (Z)

Wiegand X+0-bit (X=length of ID-number)

```
NNNNNNNN...NNNNNNNN
```

Example

Note that in the ID List the **Type** is now **RAW** and the **ID-number** is the HEX value of the decimal value (138276).



ID LIST

Identification list

No.	Count	Source	Type	ID-number	Description
1	1	BARCODE	RAW	02 1C 24	RAW HEX DATA

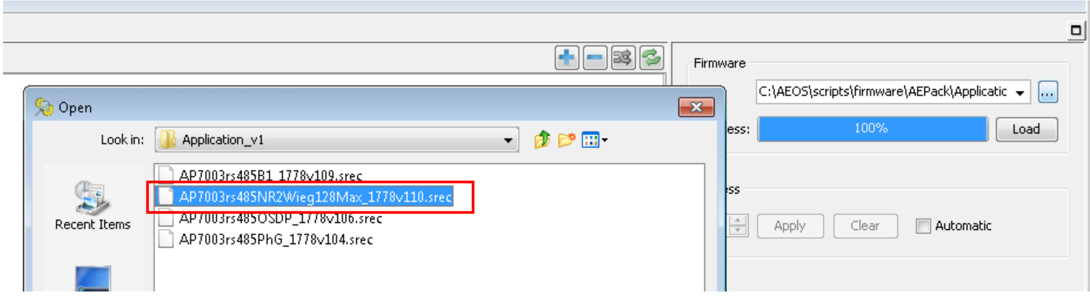
6. Configuring AEmon for Wiegand

To configure AEmon for the QR code function via Wiegand, take the following steps:

Step 01 Configure the AEOS Blue controller in AEmon

By default, the AEOS blue controller already uses the correct firmware for the Wiegand interface. Only when the default setting has been changed, you must change it back.

1. Start AEmon.
2. Select the AEOS Blue controller you want to update.
3. Go to **View > Hardware**.
4. In the **Firmware** section at the right side of the window, click the **[...]** button next to the File field. This opens the C:\AEOS\scripts\firmware folder. The different firmware versions are stored in different subfolders.
5. From the **Files of type** drop-down list, select the file type that is compatible with the selected hardware. This will only show the firmware files that are compatible with your selected hardware.
6. Select the correct Wiegand firmware file from the correct folder.
7. Click **Open**.
8. Click the **Load** button to start the firmware update.



Firmware: C:\AEOS\scripts\firmware\AEPack\Applicatic

ess: 100%

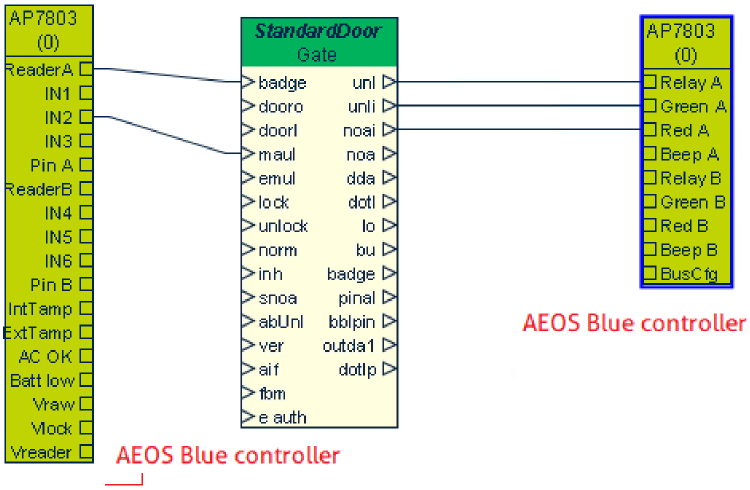
Look in: Application_v1

AP7003rs485B1_1778v109.srec
AP7003rs485NR2Wieg128Max_1778v110.srec
AP7003rs485OSDP_1778v106.srec
AP7003rs485PhG_1778v104.srec

Step 02 Configure the MACE reader in AEmon

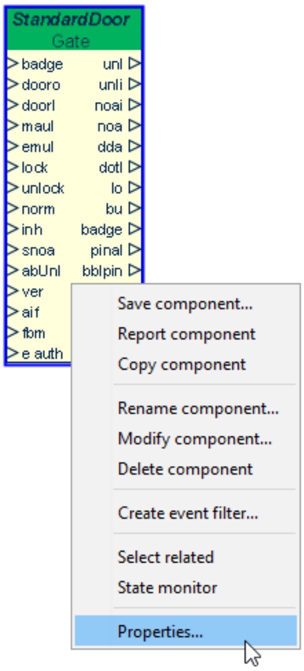
1. In AEmon, create/open the configuration (see the *AEOS Access Points and Entrances* manual).
2. Press **CTRL+E** and click **Yes** to deploy the configuration.

Configuration example



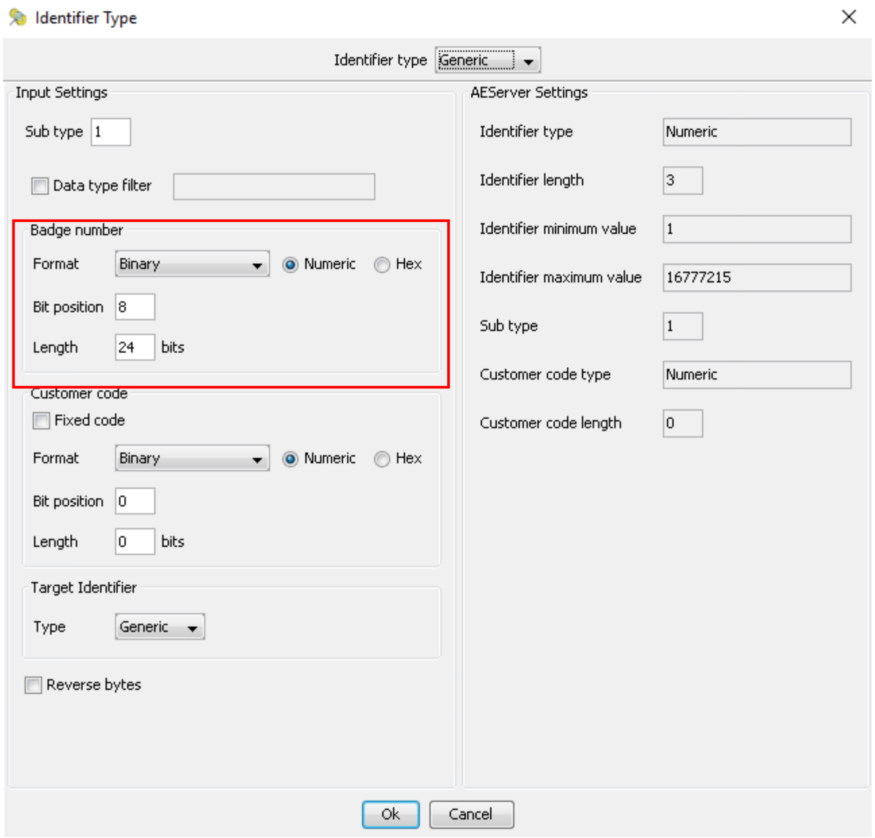
Step 03 Configure the identifier type in AEmon

1. Right-Click the **StandardDoor** AEbc, and click **Properties**.



2. Open the **Identifier type** editor and select **Generic**.
3. Set the **Format** to **Binary** and select **Numeric**
4. Set the **Bit position** to **8**. Check the other settings. In this example, we set the **Length** to **24** bits (for we use a 6-digit number). Click **OK**.
5. Press **CTRL+E** and click **Yes** to deploy the configuration.

The identifier type settings must match the settings in AEOS, see chapter 7.



Identifier Type

Identifier type: Generic

Input Settings

Sub type: 1

□ Data type filter

Badge number

Format: Binary ● Numeric ○ Hex

Bit position: 8

Length: 24 bits

Customer code

□ Fixed code

Format: Binary ● Numeric ○ Hex

Bit position: 0

Length: 0 bits

Target Identifier

Type: Generic

□ Reverse bytes

AEServer Settings

Identifier type: Numeric

Identifier length: 3

Identifier minimum value: 1

Identifier maximum value: 16777215

Sub type: 1

Customer code type: Numeric

Customer code length: 0

7. Configuring AEOS

To configure AEOS for the QR code function, take the following steps:

Step 01 Define the QR code identifier type in AEOS

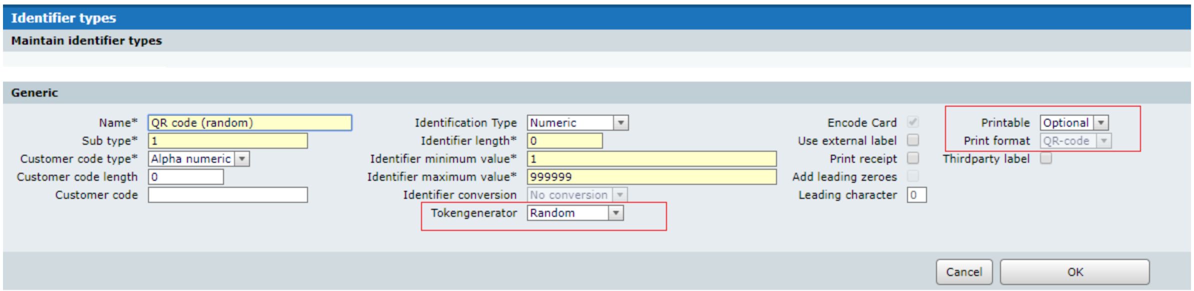
To define the QR identifier type, which is a 'generic' AEOS identifier type, do as follows:

1. Go to **Administration** > **Maintenance** > **Identifiers** > **Identifier types**.
2. Click **New**.
3. Enter a **Name** and **Sub type**, **Customer code type**, **Identifier length**, **minimum value** and **maximum value**.

! The identifier type settings must match the settings in AEmon, see chapter 4 (for OSDP) or 6 (for Wiegand).

4. Enable the (random) token generator.
   Note that you can always enter a self-chosen identifier number when you issue a QR code identifier, even when the (random) token generator is enabled.
5. Set the Printable option to **Yes** or **Optional**.
   When the **Printable** option for the QR code identifier type is set to **Yes**, the print dialogue will open automatically when you issue a QR code. When the **Printable** option is set to **Optional**, pressing the **Print** button will start the print dialogue.
6. Set the **Print format** to **QR code**.
7. Click **OK**.

! You can only use one printable identifier type at once, either a *bar code* or a *QR code*.



Identifier types

Maintain identifier types

Generic

Name*	QR code (random)	Identification Type	Numeric	Encode Card	☑	Printable	Optional
Sub type*	1	Identifier length*	0	Use external label	□	Print format	QR-code
Customer code type*	Alpha numeric	Identifier minimum value*	1	Print receipt	□	Thirdparty label	□
Customer code length	0	Identifier maximum value*	999999	Add leading zeroes	□		
Customer code		Identifier conversion	No conversion	Leading character	0		
		Tokengenerator	Random				

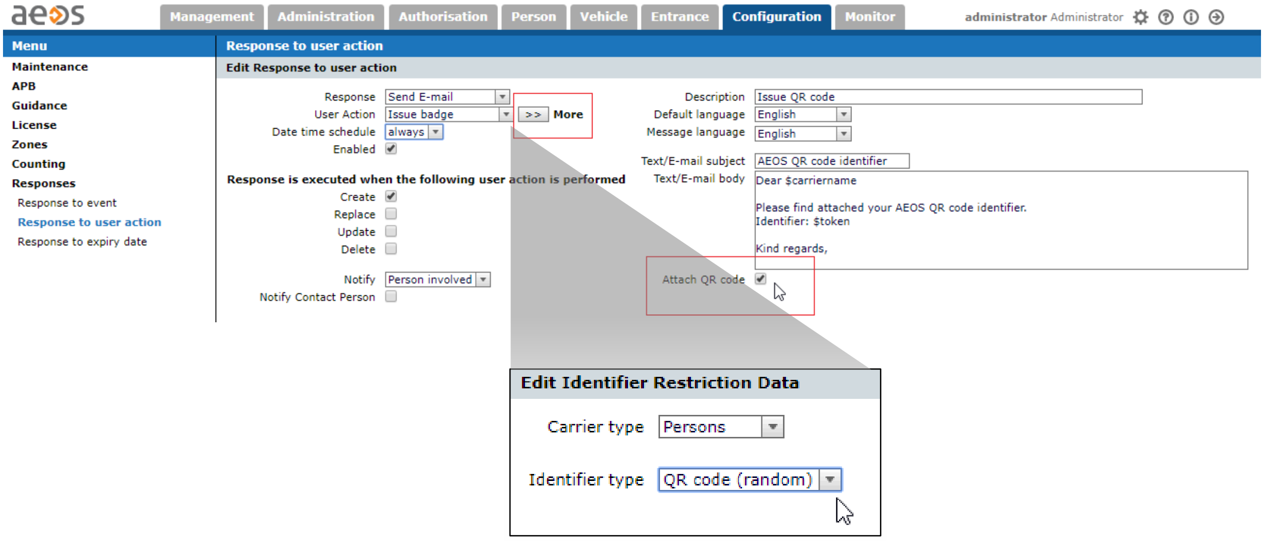
Step 02 Install printer

AEOS uses Windows system printers to print QR codes, so there's no need to install a special badge printer or label printer.

Step 03 Attach QR codes to e-mails (optional)

QR codes can be attached to e-mails as .jpg files and sent automatically. To enable this, you must create a response (**Send e-mail**) to a user action (**Issue badge**).

1. Go to **Configuration > Responses > Response to user action**.
2. Click **New**.
3. In the **Response** field, select **Send E-mail**.
4. In the **User action** field, Select **Issue badge**.
5. Click the **[>>]** button to edit the restrictions and select the carrier type and the QR code identifier type.
6. Click **OK**.
7. Select a **Day/Time schedule**.
8. Select **Enabled**.
9. Select **Create**.
10. In the **Notify** field, select **Person involved**.
11. Enter a **Description**, **E-mail subject** and **body**.
    For an overview of the available wildcards, see the Response to user action section in the *AEOS User Manual*.
12. Enable the **Attach QR code** checkbox.
13. Click **OK**.



Response to user action

Edit Response to user action

Response: Send E-mail
User Action: Issue badge
Date time schedule: always
Enabled: ☑

Response is executed when the following user action is performed

Create: ☑
Replace: □
Update: □
Delete: □

Notify: Person involved
Notify Contact Person: □

Description: Issue QR code
Default language: English
Message language: English

Text/E-mail subject: AEOS QR code identifier
Text/E-mail body:
Dear $carriername

Please find attached your AEOS QR code identifier.
Identifier: $token

Kind regards,

Attach QR code: ☑

Edit Identifier Restriction Data

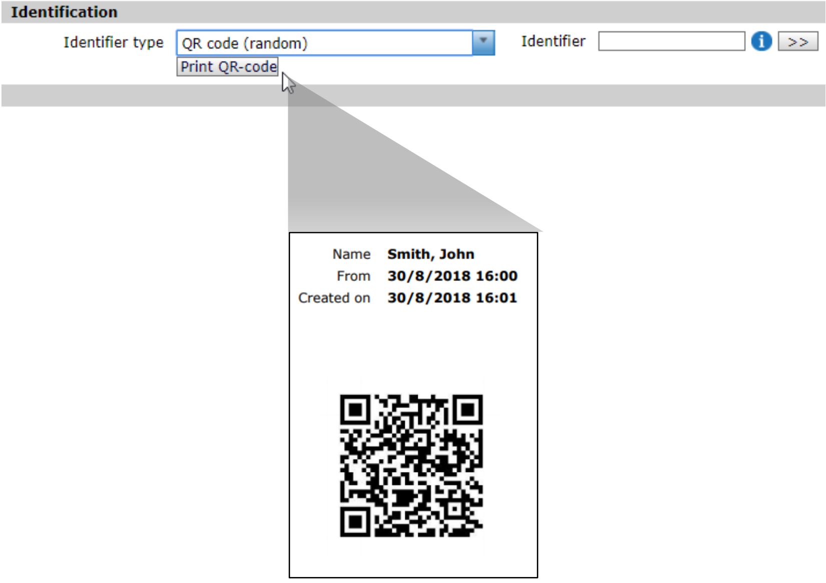
Carrier type: Persons
Identifier type: QR code (random)

8. Issuing and printing QR codes

To issue and print QR codes, do as follows:

1. Go to the **Visitor/Employee/Contractor > Announce** screens.
2. In the **Identifier Type** field, select the **QR code** identifier type.
3. When the **Printable** option for the QR code identifier type is set to **Yes**, the print dialogue will open automatically when you issue a QR code. When the **Printable** option is set to **Optional**, press the **Print** button to open the print dialogue.
4. Click **OK** to print the QR code.
5. Close the print dialogue.
6. Click **OK** to save the carrier data.

The **Print** button can also be used to reprint QR codes that have already been issued.



Identifier type: QR code (random)

Identifier:

Name: Smith, John
From: 30/8/2018 16:00
Created on: 30/8/2018 16:01

Issue and print a QR code identifier in AEOS

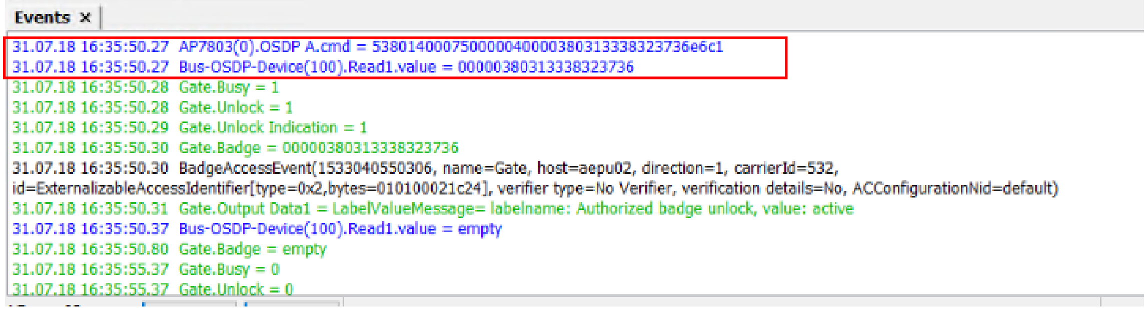
Text read by QR reader:
`Id:138276><Name:Smith, John><From:Thu Aug 30 16:00:44 CEST 2018>`

9. Checking the AEmon event monitor

When a QR code is presented to the QR reader, an event must show in the AEmon event monitor:

Example 1: OSDP

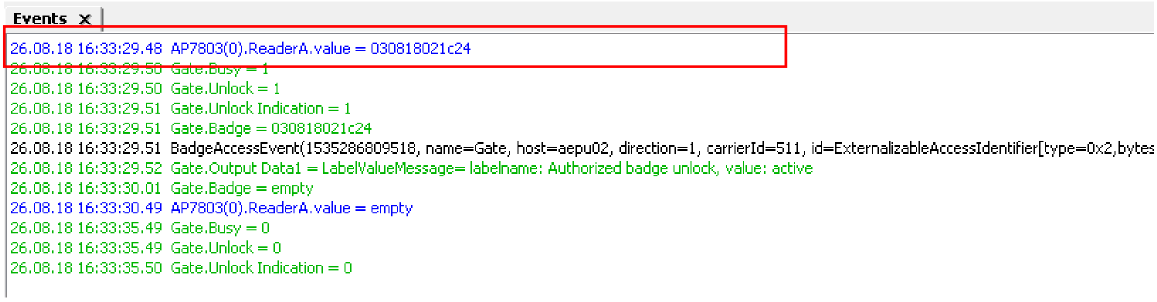
This image shows an example of an AEmon event log for an OSDP interface. On the read value, (0000380)313338323736 is the ASCII value for 138276 (DEC).



```
31.07.18 16:35:50.27  AP7803(0).OSDP A.cmd = 5380140007500000400003803133383237366e6c1
31.07.18 16:35:50.27  Bus-OSDP-Device(100).Read1.value = 0000038031333838323736
31.07.18 16:35:50.28  Gate.Busy = 1
31.07.18 16:35:50.28  Gate.Unlock = 1
31.07.18 16:35:50.29  Gate.Unlock Indication = 1
31.07.18 16:35:50.30  Gate.Badge = 0000038031333838323736
31.07.18 16:35:50.30  BadgeAccessEvent(1533040550306, name=Gate, host=aepu02, direction=1, carrierId=532,
id=ExternalizableAccessIdentifier[type=0x2,bytes=010100021c24], verifier type=No Verifier, verification details=No, ACConfigurationNid=default)
31.07.18 16:35:50.31  Gate.Output Data1 = LabelValueMessage= labelname: Authorized badge unlock, value: active
31.07.18 16:35:50.37  Bus-OSDP-Device(100).Read1.value = empty
31.07.18 16:35:50.80  Gate.Badge = empty
31.07.18 16:35:55.37  Gate.Busy = 0
31.07.18 16:35:55.37  Gate.Unlock = 0
```

Example 2, Wiegand

This image shows an example of an AEmon event log for a Wiegand interface. On the read value, (030818)021c24 is the HEX value for 138276 (DEC).



```
26.08.18 16:33:29.48  AP7803(0).ReaderA.value = 030818021c24
26.08.18 16:33:29.50  Gate.Busy = 1
26.08.18 16:33:29.50  Gate.Unlock = 1
26.08.18 16:33:29.51  Gate.Unlock Indication = 1
26.08.18 16:33:29.51  Gate.Badge = 030818021c24
26.08.18 16:33:29.51  BadgeAccessEvent(1535286809518, name=Gate, host=aepu02, direction=1, carrierId=511, id=ExternalizableAccessIdentifier[type=0x2,bytes
26.08.18 16:33:29.52  Gate.Output Data1 = LabelValueMessage= labelname: Authorized badge unlock, value: active
26.08.18 16:33:30.01  Gate.Badge = empty
26.08.18 16:33:30.49  AP7803(0).ReaderA.value = empty
26.08.18 16:33:35.49  Gate.Busy = 0
26.08.18 16:33:35.49  Gate.Unlock = 0
26.08.18 16:33:35.50  Gate.Unlock Indication = 0
```

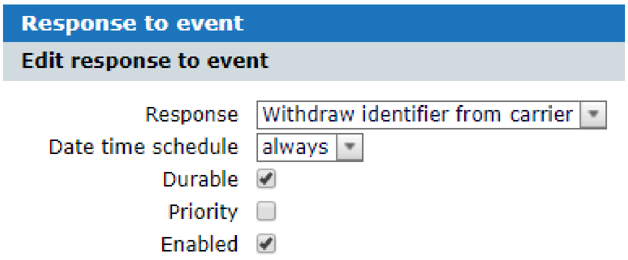
For more information on the AEmon event monitor, see the *AEOS Access Points and Entrances* manual.

10. Security recommendations

QR code solutions can help to improve the efficiency of handling visitors in common areas of buildings or in car parks. It is very convenient to assign QR codes to visitors and send these codes to them by email. This way, the visitor can access a common area or car park before they register at the reception desk.

QR codes are not suitable for high-security areas. QR codes are reproducible and, by their nature, not highly secure. However, with AEOS, you have several options to optimise QR code security:

- Withdraw the QR code identifier when it is no longer needed. A QR code identifier comes in a digital or printed form. Visitors will not go back to the reception desk and return the QR code identifier when they leave. So you must withdraw the QR code as soon as it is no longer needed. You can use the **Response to event** option in AEOS to withdraw the identifier automatically after use. Just like other identifiers, the visitor's QR code identifier will be removed from AEOS when it is withdrawn, or when the visitor (carrier) itself is deleted.
  For more information on withdrawing identifiers, deleting carriers and automatic responses to events, see the *AEOS User Manual*.

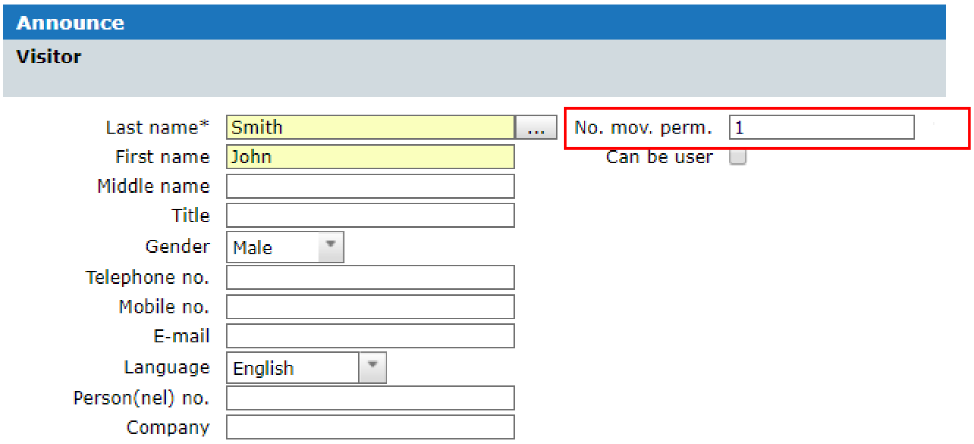


Response to event

Edit response to event

Response	Withdraw identifier from carrier ▾
Date time schedule	always ▾
Durable	☑
Priority	☐
Enabled	☑

- Use the **Anti Pass Back (APB)** option in AEOS to prevent visitors from entering the same zone twice in a row or from following an incorrect route. This makes sure that no one can enter an APB zone with a QR code that belongs to a visitor who is already inside. For more information, see the *Anti Pass Back (APB)* chapter in the *AEOS User Manual*.
- Use the **Maximum number of movements** option in AEOS to set the number of times the visitor (carrier) can access the area. This way, one QR code can only be used once, or a limited number of times. For more information, see the *Maximum Number of Movements Permitted* chapter in the *AEOS User Manual*.

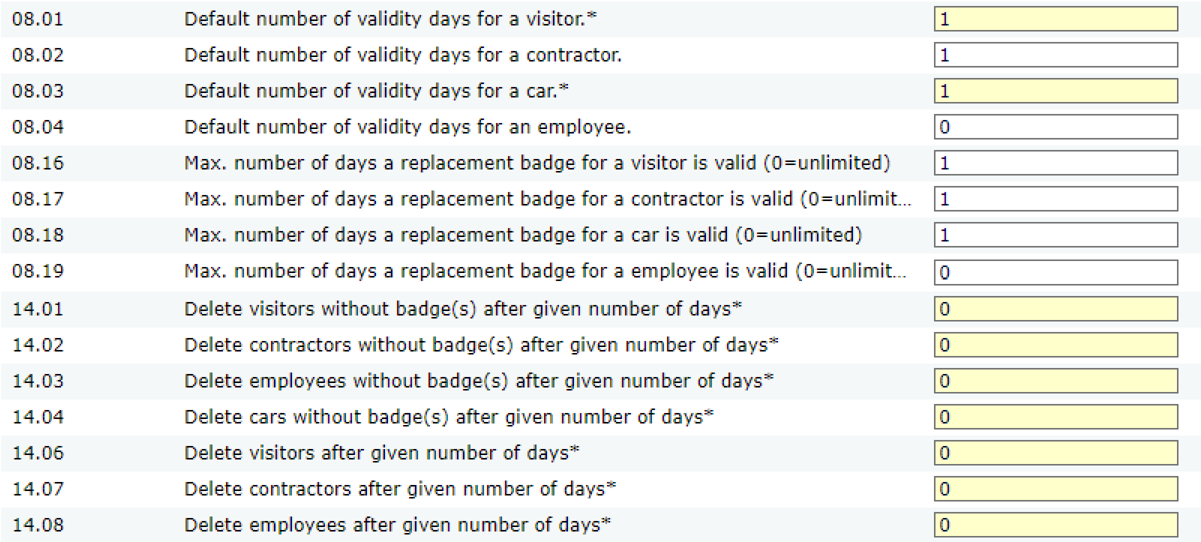


Announce

Visitor

Last name*	Smith ...	No. mov. perm.	1
First name	John	Can be user	☐
Middle name			
Title			
Gender	Male ▾		
Telephone no.			
Mobile no.			
E-mail			
Language	English ▾		
Person(nel) no.			
Company			

- Use the **AEOS system properties** to restrict the carrier validity of authorisations. See the examples below. For more information on changing AEOS system properties, see the *AEOS User Manual*.



08.01	Default number of validity days for a visitor.*	1
08.02	Default number of validity days for a contractor.	1
08.03	Default number of validity days for a car.*	1
08.04	Default number of validity days for an employee.	0
08.16	Max. number of days a replacement badge for a visitor is valid (0=unlimited)	1
08.17	Max. number of days a replacement badge for a contractor is valid (0=unlimit...	1
08.18	Max. number of days a replacement badge for a car is valid (0=unlimited)	1
08.19	Max. number of days a replacement badge for a employee is valid (0=unlimit...	0
14.01	Delete visitors without badge(s) after given number of days*	0
14.02	Delete contractors without badge(s) after given number of days*	0
14.03	Delete employees without badge(s) after given number of days*	0
14.04	Delete cars without badge(s) after given number of days*	0
14.06	Delete visitors after given number of days*	0
14.07	Delete contractors after given number of days*	0
14.08	Delete employees after given number of days*	0

AEOS system properties

11. Privacy Notices

11.1 Purpose

The purpose of the AEOS QR code functionality is to identify carriers that request access to physical premises.

11.2 Method

Carrier data is entered in AEOS via the AEOS user interface (AEOS Maintenance & Configuration or AEOS Dashboard). It is converted to a QR code that can be used as an identifier. A QR code identifier comes in a digital or printed form.

11.3 Data

AEOS QR codes contain a carrier name, and also a customer code, identifier number, and validity.

11.4 Storage

Any carrier data provided to AEOS is stored in a secured AEOS database.

11.5 Retention

Any carrier data provided to AEOS will be stored until that information is deleted or changed.

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