



Acre Multi-tech Reader with SiPass integrated – OSDP and Wiegand Protocol

This document describes the process for connecting the acre multi-tech reader to SiPass integrated, using OSDP and Wiegand.

1. Reader Detail

The acre multi-tech reader has a built-in auto-detect function, meaning depending on how you wire the reader, it will configure itself accordingly (OSDP / Wiegand), this guide will focus on both connection options starting with OSDP and the Wiegand.

Note – If a reader has been connected as OSDP, then it will lock itself to this format, and a config token will be required to revert to Auto-detect mode.
See chapter 7 for further detail on this.

2. Wiring a Reader - OSDP

The reader is wired in the conventional way:

Multi-Tech Reader	SiPass OSDP device
Red	+12v
Black	0v
Green (RS485-A)	A (Tx +)
White (RS485-B)	B (Rx -)

Note – acre multi-tech readers are 12vdc

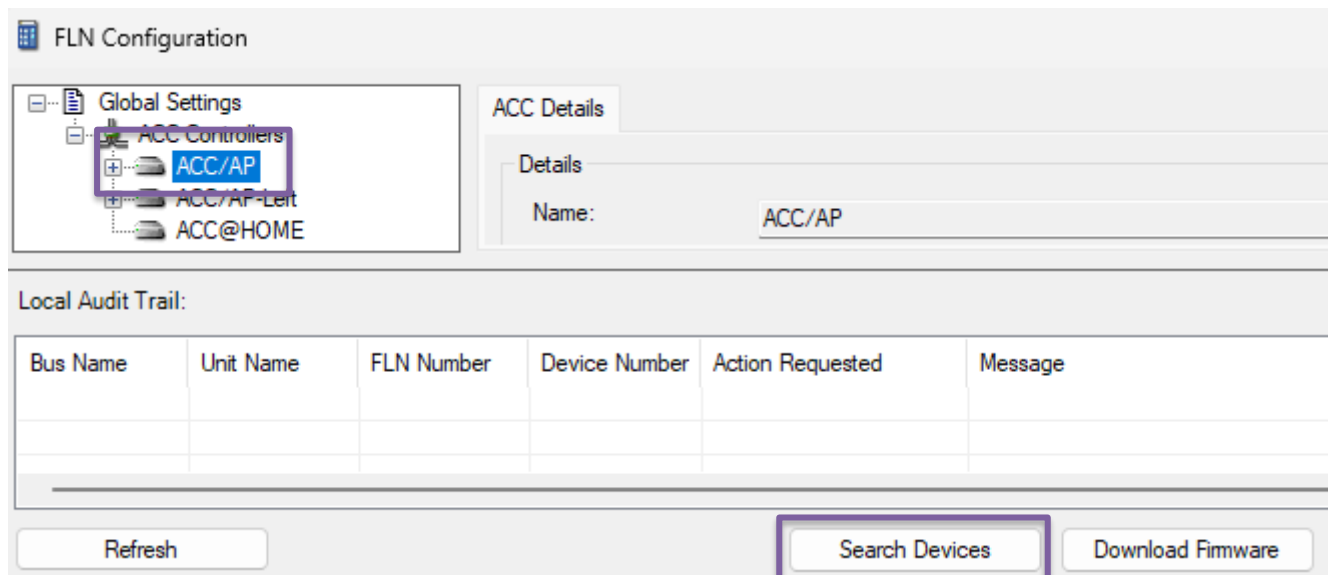
SiPass OSDP devices are controllers being able to connect OSDP readers like an ACC-AP MFI, DRI (ADD51xx) or ERI (ADE5300)

3. Adding an OSDP Reader

For SiPass integrated to be able to read cards presented to the reader, the OSDP readers need to be discovered by the system. This example demonstrates the use of an ACC-AP Controller connecting up to 2 Readers to the available reader ports.

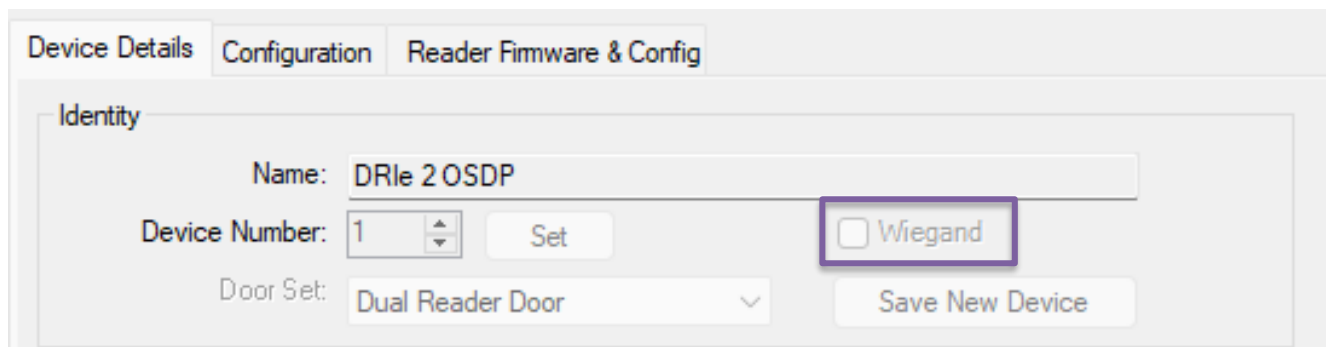
The configuration is essentially the same for all other door modules and controllers in the SiPass integrated devices subset.

Open the SiPass integrated FLN Configuration tool with the Configuration Client. Navigate to the desired controller and use the “Search Devices” feature to find the onboard DRle on your controller.



Bus Name	Unit Name	FLN Number	Device Number	Action Requested	Message

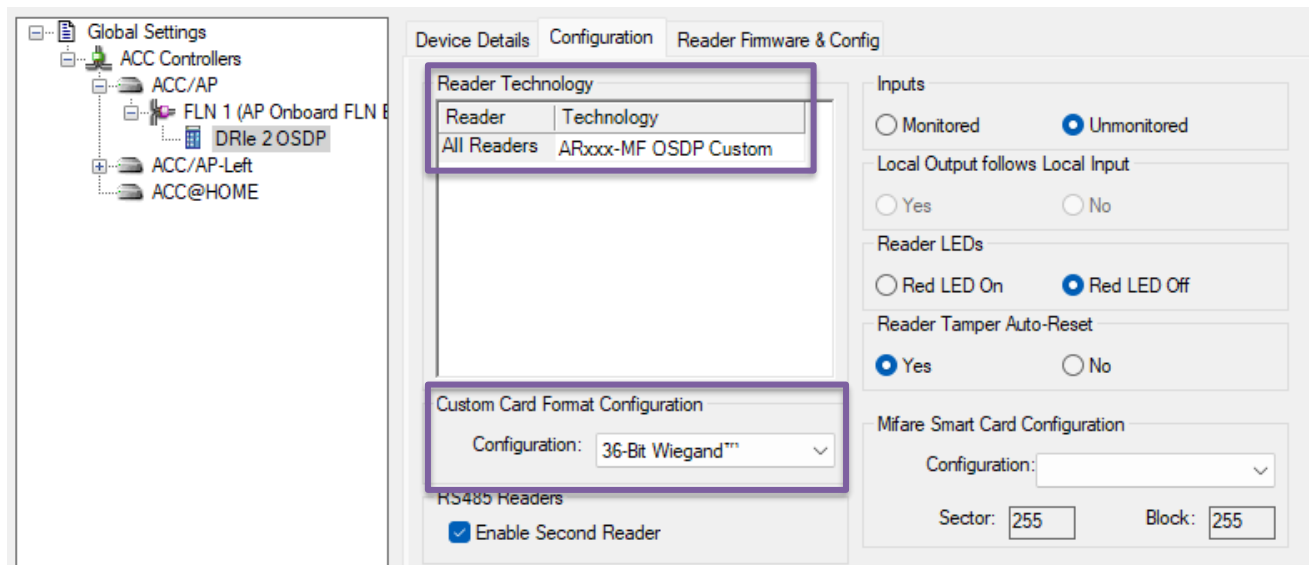
Once the DRle has been discovered apply the required settings and save this as new device. Make sure to mark this **NOT as a Wiegand Device**, otherwise the OSDP interface will be turned off and the reader discovery will not work. If all is set right way it should look similar to this.



Make sure the Wiegand checkbox is not set.

If the Device is saved, you can navigate on to the tab called “Configuration”, on the same screen.

Here we need to apply the relevant settings for the reader to work on the correct interface. We will focus just on the card technology as this defines how the reader connects and what’s the output and features to the system. We select the card technology ARxxx-MF OSDP Custom to allow the modification of the delivered card content over OSDP.

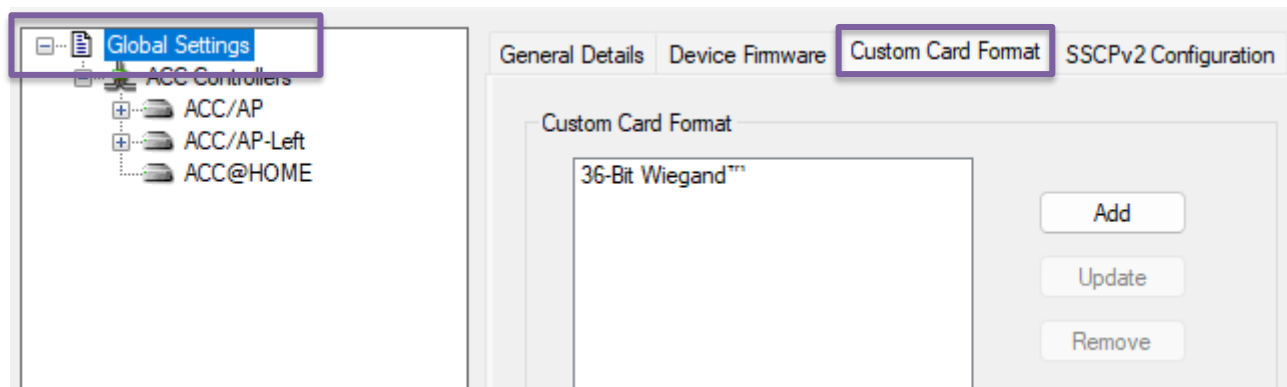


We must define the cardnumber location details in a custom card profile, to tell the reader where the required data is located from the LEAF cards.

In SiPass integrated this is done via a custom card profile. Here in the example the profile is called “36 Bit Wiegand”, and can be used for Wiegand and OSDP the same way.

Here is the content of the custom card profile, what will be defined in the global setting in the

SiPass integrated FLN Configuration Tool / Global Settings



Here you can create a new card template or reuse an existing.

The LEAF Cards will transmit 36 Bits of data in the following Format

36 Bit Formats

W36-8					Badge ID																															
Bit Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

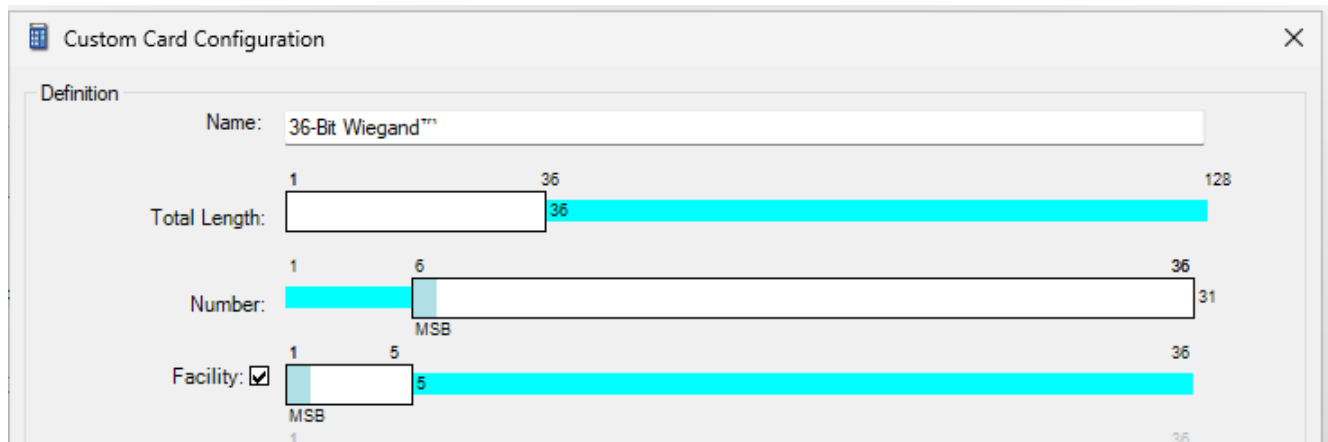
Facility Code Range: 0 - 31

Badge ID Range: 0 - 2,147,483,647

This is how the correct custom card settings for the OSDP will then look like.
In OSDP the Facility code is normally not used, so we can ignore this first 5 Bits and switch off the Facility checkbox in the custom card profile.

Important is the following Setting to match the above W36-8 Profile

- Total Length is 1-36
- Number (Card Number) is 6 -36 with MSB in the front
- Facility is 1-5 also MSB in the front



Custom Card Configuration

Definition

Name: 36-Bit Wiegand™

Total Length: 1 36 128

Number: 1 6 36 31

Facility: ☒ 1 5 36

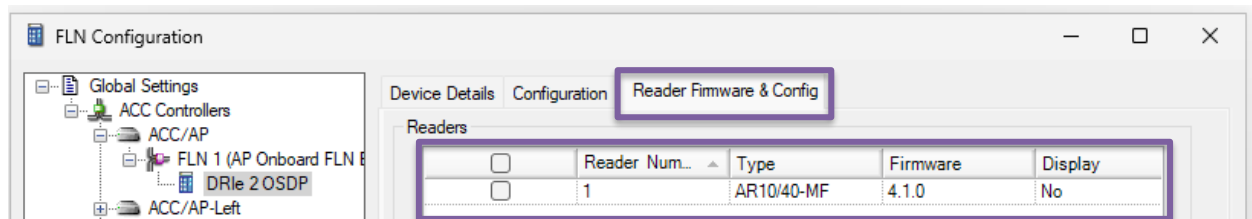
MSB

If you would like to include the facility code, which in this example is “15” you can set the facility reading on.

This needs to be considered further on in the Credential Profile Settings to either use the facility or not. (same will later apply to the Wiegand configuration too).

We keep the Facility code enabled because we can reuse the custom card profile later in the Wiegand sample the same way.

If all those setting have been applied correctly, we can navigate to the 3rd tab Reader Firmware & Config, to check if the OSDP reader(s) have been detected. As SiPass integrated does not know the reader type it will display the default AR10/40-MF with the correct FW.



On this same page you can apply several optional settings such as

- OSDP Tamper behaviour
- OSDP Buzzer settings
- OSDP Bus speed

SiPass integrated does not current support the following items with the acre multi-tech readers:

OSDP Encryption

Reader needs to get the Encryption Key set outside of SiPass and then the encryption can be enabled, but SiPass can't set the key to the reader.

OSDP Display settings

The current Models have no Display.

Firmware update

Firmware Updates are done by the WaveLynx Configure App.

Configuration


Configuration changes are done by the WaveLynx Configure App.

If all has been applied and configured as per the description above, the reader is online in the system and can successfully read the LEAF cards like this example.

This message in the SiPass Audit Trail will tell you the reader is online and successfully connected.

	07/02/2025	13:11:13	DRle 2 OSDP Door Reader 1		Reader online
	07/02/2025	13:11:14	DRle 2 OSDP Door Reader 1		Reader is not using crypto
	07/02/2025	13:11:14	DRle 2 OSDP Door Reader 1		Reader Tamper close








Using a compatible card on the reader will result in a door opening and the following message in the system.

	07/02/2025	13:14:26	DRle 2 OSDP Door Reader 1	Person	XYZ	Valid card 10182 Facility 15
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The Reader will show a green light indication and the door will get an access granted event.

Adding another reader to the same port (limits might apply according to the selected device) just add the reader to the same or different OSDP port and wait for the auto discovery to

complete. In SiPass Audit Trail you will be getting the following message if another reader has been added. Please check the controller limits for further info about OSDP capabilities.

	07/02/2025	14:15:23	DRle 2 OSDP Door Reader 1		Reader online
	07/02/2025	14:15:23	DRle 2 OSDP Door Reader 1		Reader is not using crypto
	07/02/2025	14:15:24	DRle 2 OSDP Door Reader 1		Reader Tamper close
	07/02/2025	14:15:34	ACC/AP		Fin 1 Found & assigned Reader 2
	07/02/2025	14:15:45	DRle 2 OSDP Door Reader 2		Reader online
	07/02/2025	14:15:45	DRle 2 OSDP Door Reader 2		Reader is not using crypto
	07/02/2025	14:15:45	DRle 2 OSDP Door Reader 2		Reader Tamper close

4. Wiring a Reader - Wiegand

As the reader supports an automatic detection of either OSDP or Wiegand on the connected controller, we need to make sure to set the reader into Wiegand mode by connecting the reader to a Wiegand port on the SiPass integrated door controller.

The reader is wired in the conventional way:

Multi-Tech Reader	SiPass door device
Red	+12v
Black	0v
Green (Data 0)	D0
White (Data 1)	D1
Orange	Led Red
Blue	Led Green
Brown (Tamper Out)	Can be connected to a spare Input if required

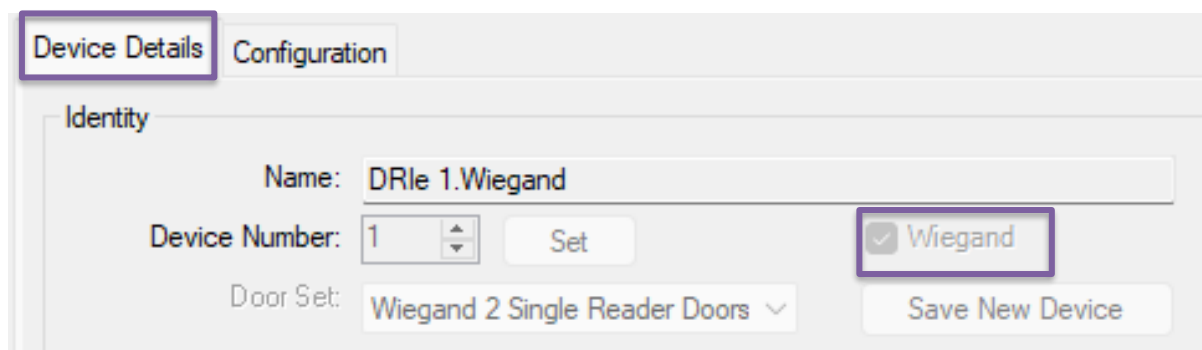
Note – acre multi-tech readers are 12vdc

SiPass door devices are controllers being able to Wiegand readers
e.g. ACC-AP, SRI (ADS51xx), DRI (ADD51xx) or ERI (ADE5300)

5. Adding a Wiegand Reader

Open the SiPass integrated FLN Configuration tool within the Configuration Client. Navigate to the desired controller and use the “Search Devices” feature to find a new device to connect the reader or use an existing unit to add a reader. The steps for adding a new controller will not repeat here, as this always follows the same principal way.

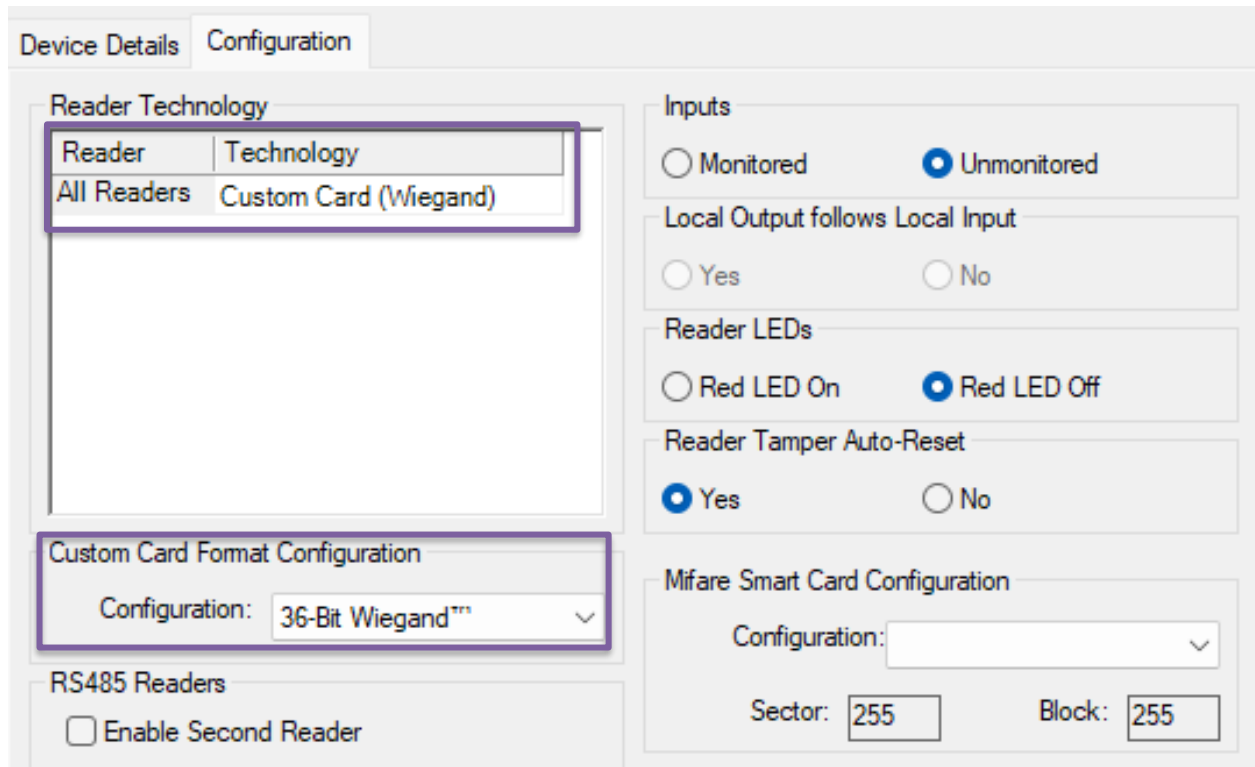
Make sure the Device, specially the ACC-AP, is configured for Wiegand



The screenshot shows the 'Device Details' tab of the configuration tool. The 'Name' field contains 'DRle 1.Wiegand'. The 'Device Number' is set to '1' with a 'Set' button next to it. The 'Door Set' dropdown is set to 'Wiegand 2 Single Reader Doors'. A checkbox labeled 'Wiegand' is checked. A 'Save New Device' button is located at the bottom right.

Make sure the Wiegand checkbox is set.

If the Device is saved, you can navigate to the tab named "Configuration", on the same screen. Here we need to apply the relevant settings for the reader to work on the correct interface. We will focus just on the card technology as this defines how the reader connects and what's the output and features to the system. We select the card technology Custom Card (Wiegand), to allow the modification of the delivered card content over the Wiegand Interface.



Device Details Configuration

Reader Technology

Reader	Technology
All Readers	Custom Card (Wiegand)

Custom Card Format Configuration

Configuration: 36-Bit Wiegand™

RS485 Readers

☐ Enable Second Reader

Inputs

☐ Monitored ☒ Unmonitored

Local Output follows Local Input

☐ Yes ☐ No

Reader LEDs

☐ Red LED On ☒ Red LED Off

Reader Tamper Auto-Reset

☒ Yes ☐ No

Mifare Smart Card Configuration

Configuration:

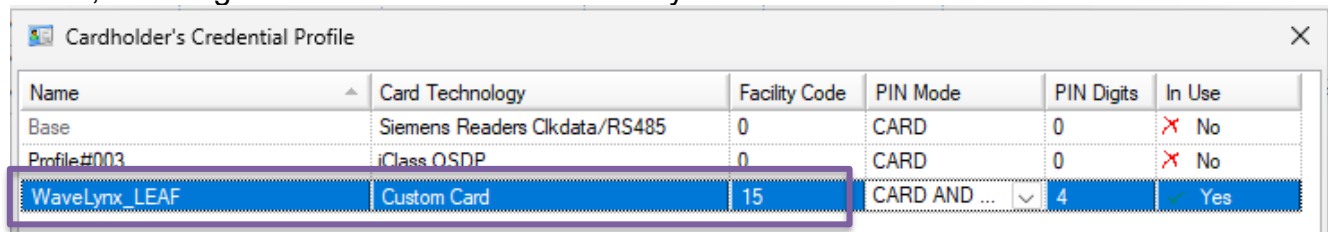
Sector: 255 Block: 255

As we use the same custom card template as for OSDP there is no further description or changes required. For card and PIN operation, the reader PIN output must be changed from default 8 Bit to 4 Bit output, See reader manual for details.

Continue to save the settings and try the card on a Wiegand connected reader. The output of the card number is the **same** as for the OSDP reader. So, you can even mix those readers on the 2 different interfaces like OSDP and Wiegand in your system.

6. Credential Profile Settings

In SiPass integrated the card information provided will be parsed by so called Credential profiles into the cardholder records. A credential profile defines the card technology, operation mode, PIN length and in some cases the facility code.



Name	Card Technology	Facility Code	PIN Mode	PIN Digits	In Use
Base	Siemens Readers Clkdata/RS485	0	CARD	0	<input checked="" type="checkbox"/> No
Profile#003	iClass OSDP	0	CARD	0	<input checked="" type="checkbox"/> No
WaveLynx_LEAF	Custom Card	15	CARD AND ...	4	<input checked="" type="checkbox"/> Yes

In both examples we have used a custom card profile, so the Credential profile will for both examples be the same too.

To add a card to the cardholder in SiPass it must be mapped to the above Credential profile and works for both variants Wiegand and OSDP the same way.

NOTE – At the point of publication, only acre supplied LEAF credentials have been verified against SiPass Integrated.

7. Re-enable OSDP Auto-detect

If the reader has previously been connected as an OSDP reader, it will be fixed to OSDP mode, and needs to be “reset” before being usable as a Wiegand reader:

To re-enable Wiegand functionality (OSDP Auto-detect mode), you will need to enter the token via the Configure Mobile App:

Within the Configure App, navigate to:

- Profiles & Cards → Connect to reader → Download
use Token: **c-ejsQmSnJ**
- Apply to reader

Apps are available here:

Android:

https://play.google.com/store/apps/details?id=com.wavelynx.configure&pcampaignid=web_share

Apple: <https://apps.apple.com/gb/app/configure/id6645735994>



If you have any questions, please contact our Global Technical Services team.
Contact details can be found on our website.