

三方 Wiegand 读卡器集成案例介绍

Case Introduction of Three-party Wiegand Card Reader Integration

介绍：当需要集成三方 wiegand 读卡器到海康传统控制器，如果是非标准 wiegand26 和 wiegand34,那么我们可以尝试通过 4200 软件的高级门禁模块设置一下自定义 wiegand。本文介绍两个 wiegand 案例供参考。

Introduction: When it is necessary to integrate a three-party wiegand card reader into a traditional Hikvision controller, if it is a non-standard wiegand26 and wiegand34, then we can try to set a custom wiegand through the advanced access control module of the 4200 software. This article introduces two wiegand cases for reference.

案例一：wiegand 48 位 HID 读卡器

Case 1: wiegand 48-bit HID card reader

1、读卡器 Wiegand 规则信息

1. Rules Information of Wiegand Card

Formato de Tarjeta

Descripción	HID Corporate 1000-48
No total de bits en tarjeta	48
Tipo	Wiegand
Código de Instalación	X
No Código de Instalación	6210
No de Tarjeta	N
No de bits Paridad Par	P
No de bits paridad impar	P

Bit	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	37	38	39	40	41	42	43	44	45	46	47	48
	P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P

备注：

Remark:

读卡器描述：HID Corporate 1000-48

Card Reader Description: HID Corporate 1000-48

协议：韦根

Protocol: Wiegand

制造商码：X

Manufacturer Code: X

安装码数字：6210

Installation code number: 6210

卡号 ID: N

Card ID: N

第一位 P 代表偶校验： P

The first P stands for even parity: P

末位 P 代表奇校验： P

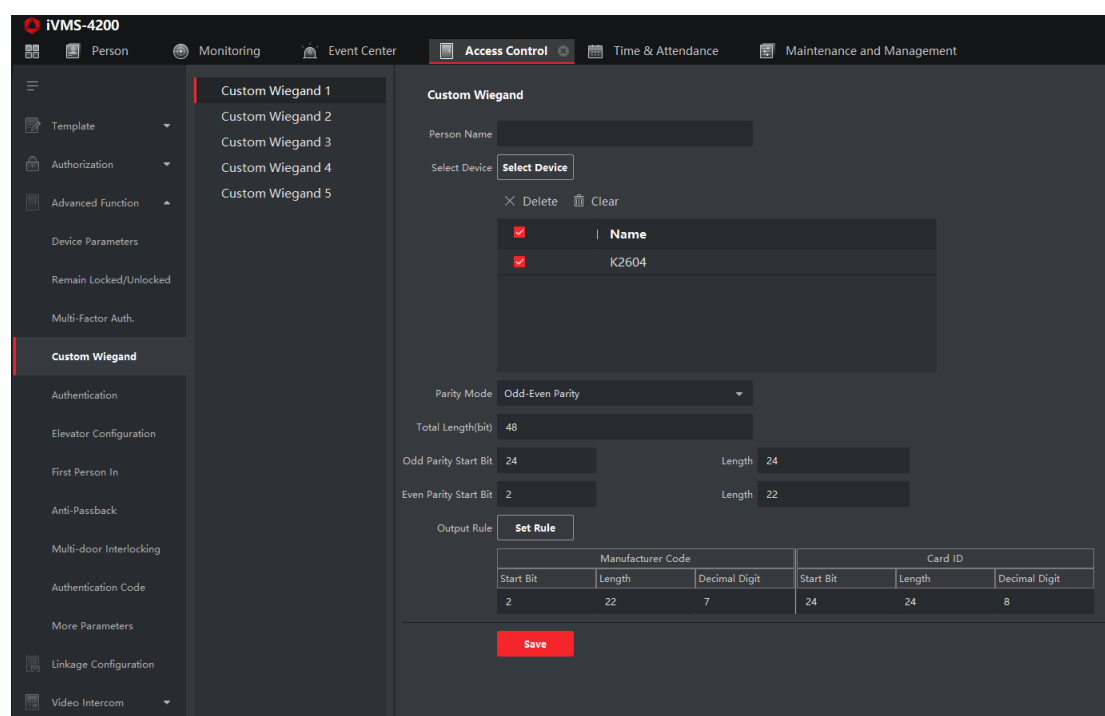
The last digit P stands for odd parity: P

2、自定义 wiegand 配置

2. Customize wiegand configuration

按上述提供的三方读卡器信息，4200 自定义 wiegand 设置规则如下：

According to the three-party card reader information provided above, the 4200 custom wiegand setting rules are as follows:



备注：

Remark:

1、Decimal Digit: 一般是需要三方提供的，当然一般就是最大二进制位数转十进制后最大位数。例如 card ID: 二进制长度是 24，那么 24 个 1 最大十进制位数是 8 位，如下图。

1. Decimal Digit: Generally, it needs to be provided by three parties. Of course, it is usually the maximum number of digits after converting the maximum binary digits to decimal. For example, card ID: the binary length is 24, then the maximum decimal digits of 24 1s are 8, as shown in the following figure.



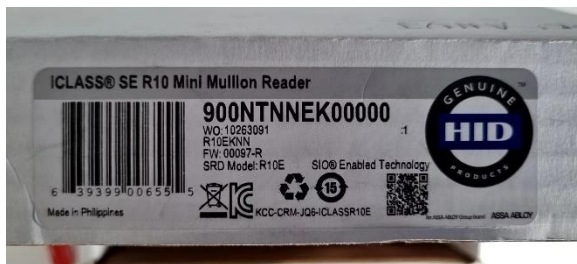
2、4200 最多可以保存 5 个 wiegand 模板，但是下发到控制器只能有一个自定义 wiegand。
 2. The 4200 can save up to 5 wiegand templates, but only one custom wiegand can be delivered to the controller.

案例二：POC 阿联酋三方 wiegand 34 和 35 读卡器

Case 2: wiegand 34 and 35 HID card readers

1、三方读卡器信息

1. Third-party card reader information



2、读卡器 Wiegand 规则信息

2. Rules Information of Wiegand Card

A.35 位 wiegand 卡规则如下图。

A. The rules of 35-bit wiegand card are as shown in the picture below.

Card Format	Segment Membership	Custom Encoding
Name: VFS Card (35 Bit Wiegand) with FC =1877		
Type:	Wiegand	<input type="checkbox"/> Asset Format
Facility Code:	1877	<input type="checkbox"/> Reversed Bit Order
Badge Offset Number:	0	<input type="checkbox"/> Duress Format
Total Number of Bits On Card:	35	
	Starting Bit:	Number of Bits:
Facility Code:	2	12
Card Number:	14	20
Extended ID:	0	0
Issue Code:	0	0
Number of Even Parity Bits:	0	Special:
Number of Odd Parity Bits:	0	None

B.34 位 wiegand 卡规则如下图。

B. The rules of 34-bit wiegand card are as shown below.

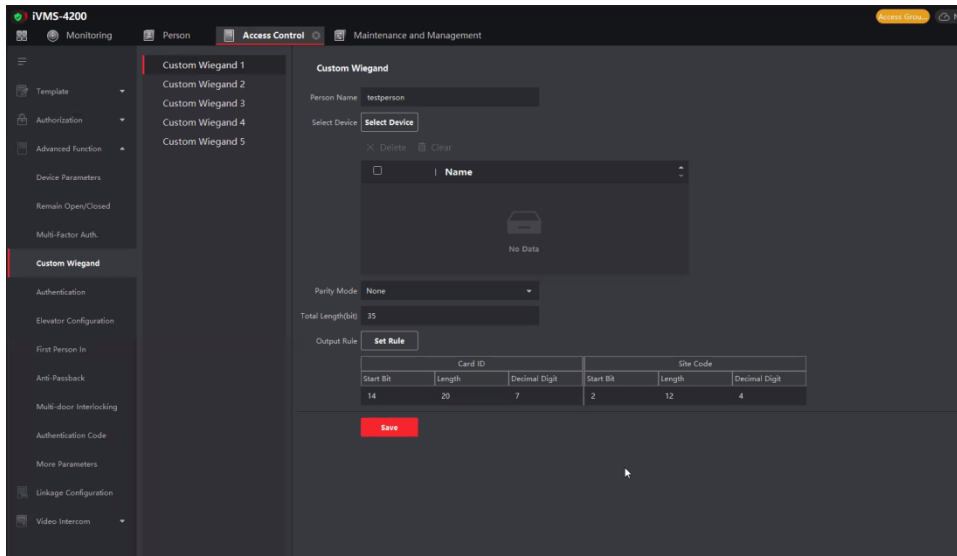
Card Format	Segment Membership	Custom Encoding
Name: VFS Card (34 Bit Wiegand) with FC =99		
Type:	Wiegand	<input type="checkbox"/> Asset Format
Facility Code:	99	<input type="checkbox"/> Reversed Bit Order
Badge Offset Number:	0	<input type="checkbox"/> Duress Format
Total Number of Bits On Card:	34	
	Starting Bit:	Number of Bits:
Facility Code:	26	8
Card Number:	2	22
Extended ID:	0	0
Issue Code:	0	0
Number of Even Parity Bits:	0	Special:
Number of Odd Parity Bits:	0	None

3、自定义 wiegand 配置

3. Customize wiegand configuration

按上述卡规则，4200 自定义 wiegand 35 设置规则如下。

According to the card rules above, the 4200 custom wiegand 35 setting rules are as follows.



调试 Debug

(1) 配置完成之后保存，打开 Debugtool 工具，连接 26 控制器，打开 **weigenDebugOn** 命令：

(1) Save it after the configuration is completed, open the Debugtool tool, connect the 26 controller, and open the **weigenDebugOn** command:



(2) 刷三方读卡器的 35 wiegand 输出结果：

(2) 35 wiegand output results of swiping the third-party card reader:

2022-04-26/17:29:18:165:

从韦根读卡器接收卡号 ebyIndex=2

自定义韦根 name = testperson 长度 = 35 00011101010101000000010001001010000

94 08 08 00 00 00 00 00 00

00 00 00 00 00 00 08 08 94

35 32 36 34 38 34

CARD_ID 0526484 6

aa 03 00 00 00 00 00 00 00

00 00 00 00 00 00 00 03 aa

39 33 38

SITECODE 0938 3

AsciiCard = 05264840938

卡号上传, 韦根读卡器[11]

卡号=5264840938 位数=11

问题排查 Troubleshoot

问题 1: 用 32 卡和 35 卡刷三方 wiegand 读卡器, 日志显示如下错误打印:

Problem 1: Use 32 cards and 35 cards to swipe the three-party wiegand card reader, the log shows the following error print:

weigenData invalid Len:32

weigenData invalid Len:35

原因: 由于三方读卡器支持 34 和 35 两种 wiegand 输出方式, 但是使用的卡是 32 和 35 的 wiegand, 那么在控制没有配置自定义 wiegand 32 和 35 情况下就会下面报错信息。

Reason: Since the three-party card reader supports 34 and 35 wiegand output methods, but the card used is 32 and 35 wiegand, then the following error message will be reported when the control is not configured with custom wiegand 32 and 35.

解决方案: 升级控制器固件最新, 串口打印设备日志, 刷几组卡, 交给技术支持。需要提供信息: 三方读卡器的卡片规则, 4200 自定义韦根设置截图和刷卡日志。

Solution: Upgrade the controller firmware to the latest, connect Wiegand to the card reader, print the device log through the serial port, swipe several groups of cards, and hand it over to technical support. Information required: card rules for three-party card readers, screenshots of 4200 custom Wiegand settings, and card swipe logs.

问题 2: 如果控制器是可以读到三方卡号, 但是卡号数字不对。

Problem 2: If the controller can read the three-party card number, but the card number is wrong.

原因: 可能是自定义 wiegand 设置有误或提供的卡规则不对导致。

Reason: It may be caused by wrong custom wiegand settings or wrong card rules provided.

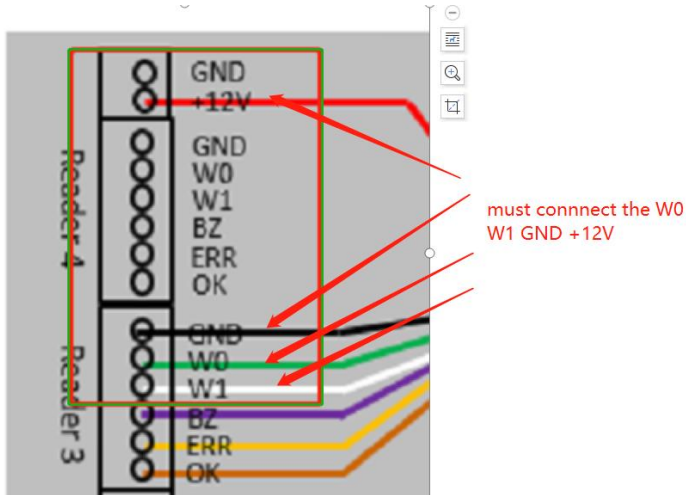
解决方案: 可以告知真正的卡号, 然后转换成 2 进制数, 与我们控制器读到的二进制数进行比对, 如果有重合部分, 就按该部分进行自定义 wiegand 设置。

Solution: You can tell the real card number, then convert it into a binary number, and compare it with the binary number read by our controller. If there is an overlapping part, customize the wiegand setting according to this part.

附录 Appendix

1、三方读卡器接 26 控制的维根接线如下:

1. The Wiegand wiring of the three-party card reader to 26 control is as follows:



2、控制器开放 wiegend 日志打印的代码:

2. The code for the controller to open the wiegend log printing:

```
else if (memcmp(pStr, "weigenDebugOn", 13) == 0)
{ printf("\r\n turn on weigen debug print \r\n"); debug_print_set |= PRINT_WEIGEN; return
1; }
else if (memcmp(pStr, "weigenDebugOff", 14) == 0)
{ printf("\r\n turn off weigen debug print \r\n"); debug_print_set &= ~PRINT_WEIGEN; return
1; }
```

3、输入 weigenDebugOn, 刷卡会有打印输出。下面为海康 34wiegand 的正常打印。

3. Input weigenDebugOn, swipe card will print out. the following is the normal print of Hikvision 34wiegand.

从韦根读卡器接收卡号 ebyIndex=3

weigen 34

韦根接口 4

UidVal[0]=0x9d

UidVal[1]=0x57

UidVal[2]=0x6b

UidVal[3]=0x53

卡号上传, 韦根读卡器[12]

卡号=1399543709 位数=10