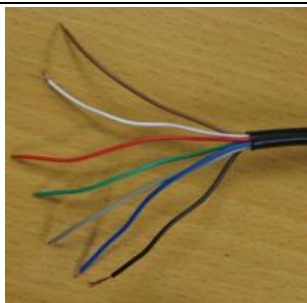




Datasheet (V1.1)

Product P/N	RWD-F022-V28	Product	13.56MHz MIFARE®-to-Wiegand34 Reader
Product Classification: Access Control			
1. Reader diagram			
2. Reader dimension 80 * 43 * 13 (mm) Internal-Antenna			
3. Specification			
Operating Frequency	13.56MHz		
Output Format	Wiegand 34		
Power Requirement	DC9~12V		
Electric Current	<60mA		
Supporting Card Type	ISO14443A (MIFARE®)		
Reading Distance	30~100 mm (depending on card / tag)		
Indicators	1 LED & 1 Buzzer		
Operation Temperature	-10℃ ~ + 70℃		
Storage Temperature	-20℃ ~ +80℃		
Humidity	0% ~ 95%		
Color	Black		
Weight	60g		

Wiring Description:

Wiegand 34		
RED	VCC (DC9~12V)	
BLACK	GND	
GREEN	DATA0	
WHITE	DATA1	
BROWN	HOLD	
BLUE	LED	
GREY	Buzzer	

● 34-bit Wiegand output format

Wiegand Format 34 bits are made up with 34 bits data, which includes 32 bits user information and 2 check bits, among the 32 bits data, the first 16 bits are for Even parity check, and the latter 16 bits are for Odd parity check. Wiegand output format is as follow:

bit	0	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
	P	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

- Data bits indicate with “E” is used for Even parity check, Data bits indicate with “O” is used for Odd parity check.

Example:

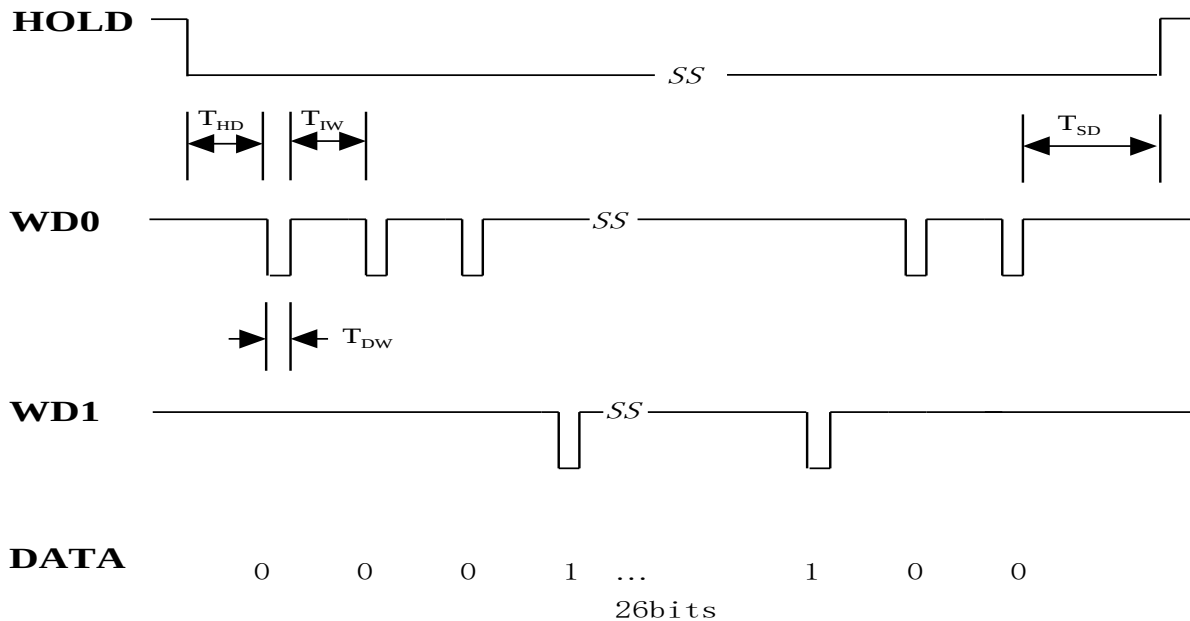
an MIFARE Classic®1K card with ID: BE E0 77 52, the 4 bytes are expressed as 32-bit binary for Wiegand 34 output:

bit	0	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
	P	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Hex		5				2			7				7				E				0				B				E					
	1	0	1	0	1	0	0	1	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	1	0	1	1	1	1	1	0	0
Dec		21111																57534																

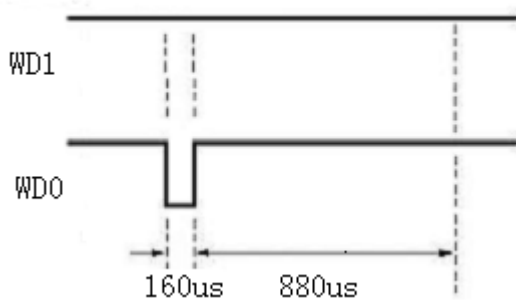
Note: MIFARE and MIFARE Classic are registered trademark of NXP B.V. and are used under license.

● 34-bit Wiegand format Output Time Sequence

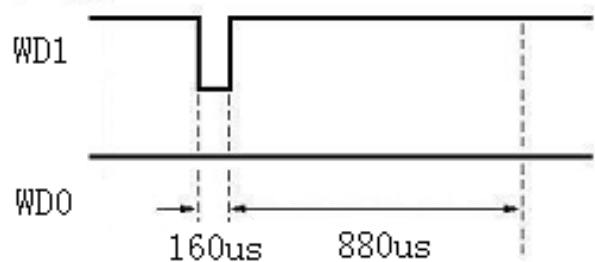
SYMBOL	DESCRIPTION	VALUE(Typ.)
T_{HD}	Sending Start Delay	1.2ms
T_{SD}	Sending Stop Delay	1ms
T_{DW}	Data pulse width	160us
T_{IW}	Data pulse interval width	880us



Waveform of state 0:



Waveform of state 1:



- If there is no data to be sent, both Data0 and Data1 are at high electric level.
- Data0 will produces a 160μs low electric level in Data0 line.
- Data1 will produces a 160μs low electric level in Data1 line.
- The falling interval of the two adjacent data is 880μs.