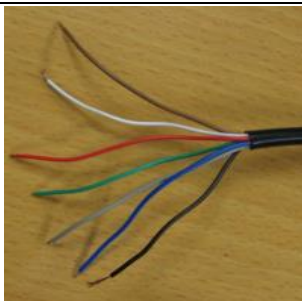




Datasheet (V1.2)

Product P/N	RWD-F022-Y28	Product	13.56MHz MIFARE®-to-Wiegand26 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 26		
Power Requirement	DC9~12V		
Electric Current	<60mA		
Supporting Card Type	ISO14443A (MIFARE® Classic) with 4 bytes ID		
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 26		
RED	VCC (DC9~12V)	
BLACK	GND	
GREEN	DATA0	
WHITE	DATA1	
BROWN	HOLD	
BLUE	LED	
GREY	Buzzer	

● 26-bit Wiegand output format

26-bit Wiegand format is made up with 26 bits data, which includes 24 bits user information and 2 check bits. Among the 24 bits data, the first 12 bits are for Even parity check, the latter 12 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
	PE	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PO
		E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	

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

Example:

an MIFARE Classic® card with ID: BE E0 77 52, the latter 3 bytes are expressed as 24-bit binary for Wiegand output:

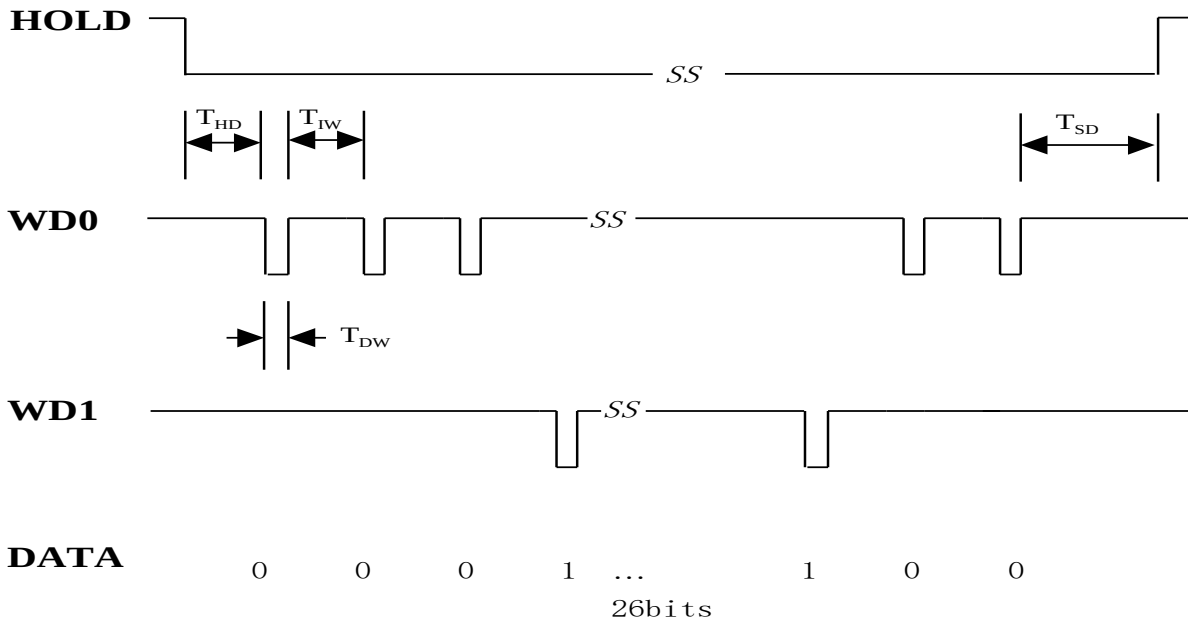
bit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
	PE	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PO	
		E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O		
Hex		E				0				7				7				5				2					
	0	1	1	1	0	0	0	0	0	0	1	1	1	0	1	1	1	0	1	0	1	0	0	1	0	1	
Dec		224									30546																

some will print Facility Code (224) and Card Number (or called User ID) (30546) as 224, 30546 on card's surface.

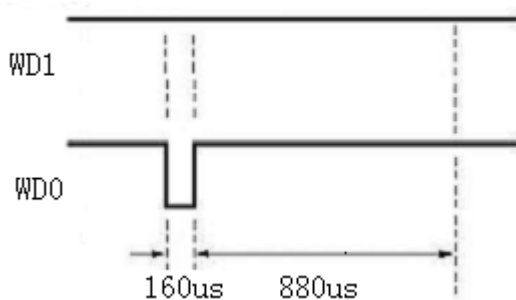
Note: MIFARE and MIFARE Classic are registered trademark of NXP B.V. and are used under license.

● 26-bit Wiegand format Output Time Sequence

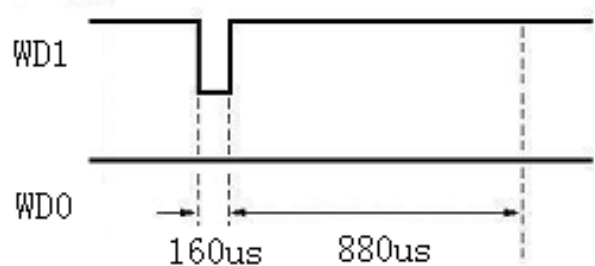
SYMBOL	DESCRIPTION	VALUE(Typ.)
T_{HD}	Sending Start Delay	1.2ms
T_{SD}	Sending Stop Delay	1ms
T_{DW}	Data pulse width	160us
T_{IW}	Data pulse interval width	880us



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.