Datasheet (V1.1)

Product P/N	RWD-N022-Y29	Product	125kHz EM-to-Wiegand26 Reader

Product Classification:
Access Control

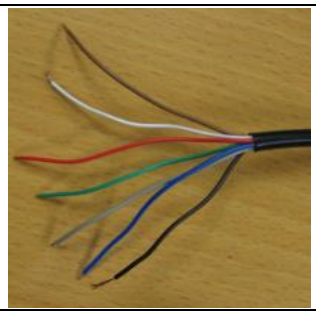
1. Reader diagram

2. Reader dimension
80 * 43 * 13 (mm)
Internal-Antenna

3. Specification	
Operating Frequency	125kHz
Output Format	Wiegand 26
Power Requirement	External DC9~12V (will be converted to DC5V for internal use) (external DC voltage can be 5V, please specify)
Electric Current	50mA
Supporting Card Type	EM4100 or Compatible
Reading Distance	> 50 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:

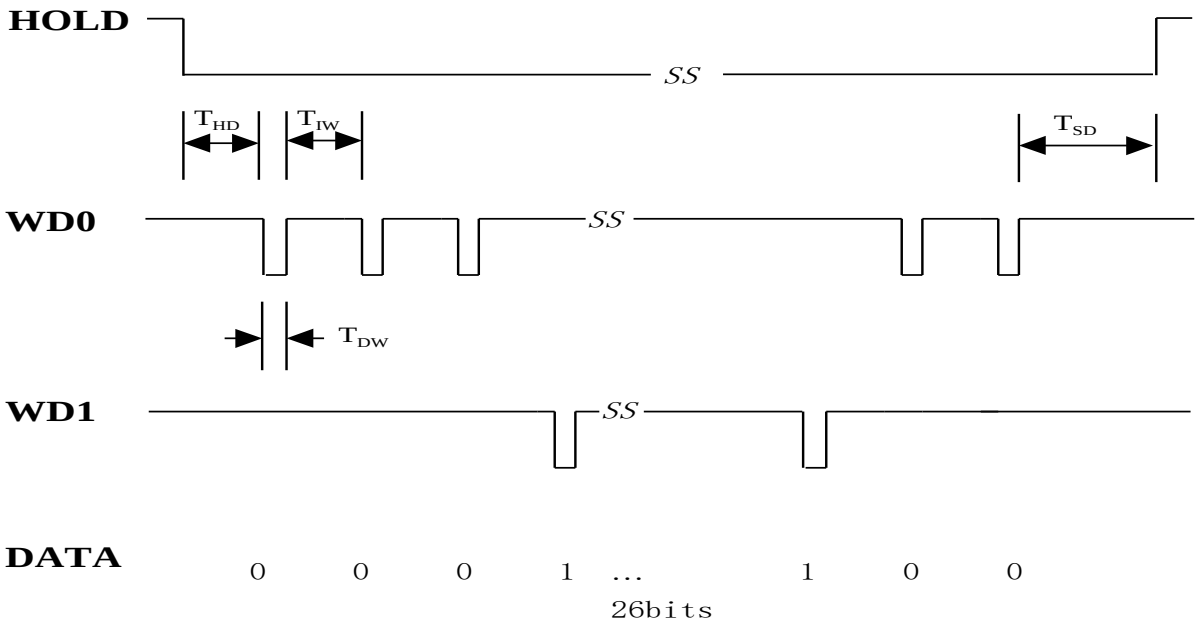
an EM card with ID: 5C 6B 3D 12 D6, the latter 3 bytes are expressed as 24-bit binary for Wiegand output:

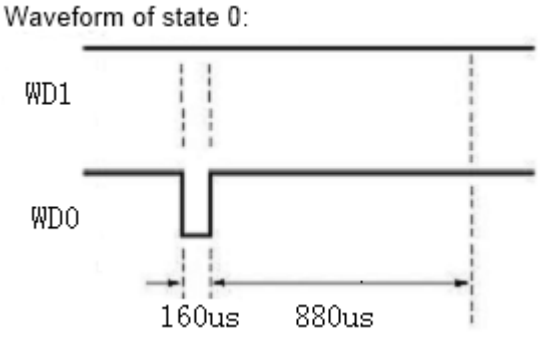
bit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	PE	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	PO
		E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	
Hex		3				D				1				2				D				6				
	0	0	0	1	1	1	1	0	1	0	0	0	1	0	0	1	0	1	1	0	1	0	1	1	0	1
Dec		61								4822																

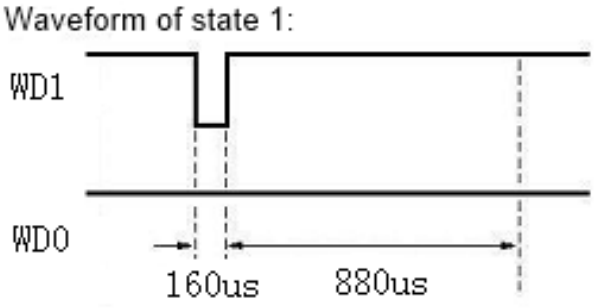
some will print Facility Code (61) and Card Number (or called User ID) (4822) as 061, 4822 on card's surface.

- **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







- 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.