

# MID-2.4G Long Range Directional Reader



## Product Feature:

1. Using high performance industrial 32bit ARM Corte-M3 microcontroller (MPU)
2. Tag identification speed: 2000tags/s (sending by time)
3. Tag reading capacity: 1000tags/s
4. Tag buffer capacity: 1000tags (anti-reread)
5. 18dBi high-gain directional antenna
  - Maximum Reading Distance: 50 meters
  - Directional Capacity: 30:1
6. With signal attenuator, reading distance can be adjusted from 1 to 50 meters
7. Read capacity: 2Kbit
8. Low battery voltage alarm

## Product parameters:

Processor	Industrial 32bit ARM Corte-M3 microcontroller(MPU)
Processor main frequency	70MHz
Reading Capacity	1000tags/s
Buffer Capacity	1000tags (anti-reread)
Reading Distance	Maximum 50meters
Attenuation Distance	0-50m adjustable (distance error $\pm 15\%$ )
Adjustable Distance	Clockwise for far, anticlockwise for near
Work Voltage	12V DC (7-12V DC)
Work Current	$\leq 100\text{mA}$
Communication Port	Wiegand 26bit 34bit
	RS232 RS485 (Default 9600 8N 1)

Work Temperature	-40℃ ~+85℃
Storage Temperature	-60℃ ~+85℃
Work Humidity	10% ~90%RH
Frequency Range	2.400-2.480GHz
Gain	14dBi
Lobe beam width	Horizontal: 55 °Vertical: 45 °
Polarization	Horizontal/Vertical
VSWR	≤1.5
Front-to-back ratio	≥24dB
Input Impedance	50Ω
Thunder/light Protection	DC grounding
Wind resistance ability	80m/s
Installation	LU code pole
Shell	ABS Engineering materials waterproof shell
Device Weight	1.5kg
Device Dimension	30x30x3cm

**Antenna Performance Index:**

Frequency Range	2.400-2.480GHz
Gain	14dBi
Lobe beam width	Horizontal: 55 °Vertical: 45 °
Polarization	Horizontal/Vertical
VSWR	≤1.5
Front-to-back ratio	≥24dB
Input Impedance	50Ω
Thunder/light Protection	DC grounding
Wind resistance ability	80m/s
Installation	LU code pole
Shell	ABS Engineering materials waterproof shell

**Wiring Definition:**

Note: To transmit data, we must connect No.9 yellow wire (Card reading control input) together with No.2 black wire (Power Ground) to connect the ground.

Numb	Color	Wiring Definition
1	Red	+12V DC (12V DC Power)
2	Black	GND (Power Ground)
3	Green	D0 (Wiegand Data 0)
4	White	D1 (Wiegand Data 1)
5	Brown	TXD (RS232 Transmit End)
6	Orange	RXD (RS232 Receive End)
7	Blue	A (RS485)
8	Purple	B (RS485)
9	Yellow	IN1 (Card reading control input)
10	Gray	GND (Power Ground)

**Communication Protocol:**

RS232 and RS485 (transmit mode only)

Communication Setting: Baud Rate 9600, 8 bit data bits, 1 bit stop bit, no validation.

Start Code (1byte)	Address Code (1 byte)	Card No. (5 byte)	Sum Check (1 byte)	End Code (2 byte)
0x02	2 byte ASCII Code	10 byte ASCII Code	2 byte ASCII Code	0x0D 0x0A CR LF

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17  
 Send: <02><30><31><30><30><31><32><33><34><41><42><43><44><42><46><0D><0A>

- 1 Start Code 0x02 fixed chars
- 2-3 Address Code 0x01 Value range 1-255 Transmit in 2 bytes ASCII code
- 4-13 Card No. 001234ABCD Value range 0x00 - 0xFFFFFFFF  
Transmit in 10 bytes ASCII code
- 14-15 Sum Check 0xBF Value range 0x00-0xFF  
Sum check for the sum of address and card number  
Transmit in 2 bytes ASCII Code
- 16-17 End Code 0x0D 0x0A Fixed char <CR><LF>

## 2.4G long range active RFID Card:

### Performance Features:

2.4G directional RFID Card is a high performance super low power consumption active RFID tag, the work frequency is 2.4GHz, mainly applied to personnel automatically identification, vehicle non-stop drive in and drive out management, family-school system, long distance check management system, etc.

## 2.4G long range active RFID Card:



### Product Specification:

Work Frequency	2.4GHz-2.5GHz(Default Value)
Work mode	Active
Transmit power	Less than 1mW(0dBm)(Default Value)
Battery	2 unit CR3032 button batteries
Quiescent current	< 1uA
The maximum operating current	<15mA
Transmit time	0.25ms
Reading mode	Read only
Read distance	0-50meter
Life cycle	5 Years(theoretical value)
Operating voltage	3V
Queries time	1s
Collision capability	strong anti-collision capability
Read cards at same time	>200pcs
Working temp.	-25 ~70 ℃
Storage Temp.	-40 ~85 ℃
Humidity	Less than 95%
Dimension	86.0mm×54.0mm×5.5mm