

DR-TWI02W Manual of WG Reader (4-array)



V1.1

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1. Product Overview

DR-TWI02W 2.4G WG reader (4-array) is a self-developed reader which has high directivity and can read 2.4G active card. By using our unique array antenna design method, the reader's forward angle can be controlled within 70°vertically and 70°horizontally, and it has excellent back-suppression performance. Control function can be achieved by using WG controller.

DR-TWI02W 2.4G WG(4- array) reader can be applied to various car park management systems, no parking automatic charge management system, one tag consumption solution for students system, personnel tracking and location system, Precious and security asset management system, access control system and warehouse management system etc.

2. Product Advantages

➤ **Perfect ratio forward to backward**

By rigorous antenna simulation, design and test, this product can control the back-reading distance within 3 meter (25m far from the card, outdoor without shielding, different environment different results), it is better compared to similar market products.

➤ **Distance can be adjusted**

With internal microwave digital attenuator, it can control reading distance flexibly to solve the problem that difficulty of reading distance control for active card.

➤ **Ultra-thin and Integrated**

We combine multi-array antenna and reader together for easy installation and deployment; Product dimensions:210mm×179mm×44mm,compared with internal similar products, it is smaller, lighter and looks more stylish.

➤ **To solve stubborn problem of car film**

Car film problem is the primary reason of near reading distance in car parking system, for super shielding car film (e.g.V-COOL V70),the problem can be effectively solved by using our reader.

➤ **Super anti-collision and anti-interference performance**

The reader supports at most 512 channels, with channel isolation, multiple readers can work together without disturbing each other.

Through adopting advanced anti-collision algorithm technology, the reader can read 200 tags within 5 seconds simultaneously in theory.

➤ **Excellent protective performance**

This product is rain-proof, salt fog-proof, dust-proof, protection grade achieves IP56, and it can be operated stably in a variety of complex environments. Product design adopted DC ground lighting protection.

3. Product Parameters

Table3-1 **product parameters**

Product Specifications	
Operating frequency	2.450GHz~2.458GHz
Read distance	Within 150m(adjustable)
Reading rate	200km/h
Reading capacity	Above 200 tags simultaneously
Angle of reading card	Oriented (70°vertically/70°horizontally)
Anti-interference	Channel-isolated tech, multiple readers work together without interference
Security performance	Encrypted calculation and security certification, to prevent link detection
Antenna polarization	Circular polarization
Communication interface	WG26;WG34(customized);RS485
Power supply	DC12V,1A
Reliability	Lightning proof, waterproof and antishocking, to meet requirements of industrial environment
Installation	U-shape special metal installation package(Max pole diameter 34-54mm)
Operating temperature	-20°C~60°C
Protection grade	IP56
Dimensions	210mm×179mm×44mm
Weight	500g

4. Product Features and Interface Definitions

4-1.Sound and light prompts

This product has a sound and light hint feature. There is a built-in buzzer. See figure 4-1,Just below the front panel, there are two bright LED lights, the left red one is power indicator, and the right blue one is reading indicator. When identifying the tag, the blue light is flashing and the built-in buzzer is buzzing.

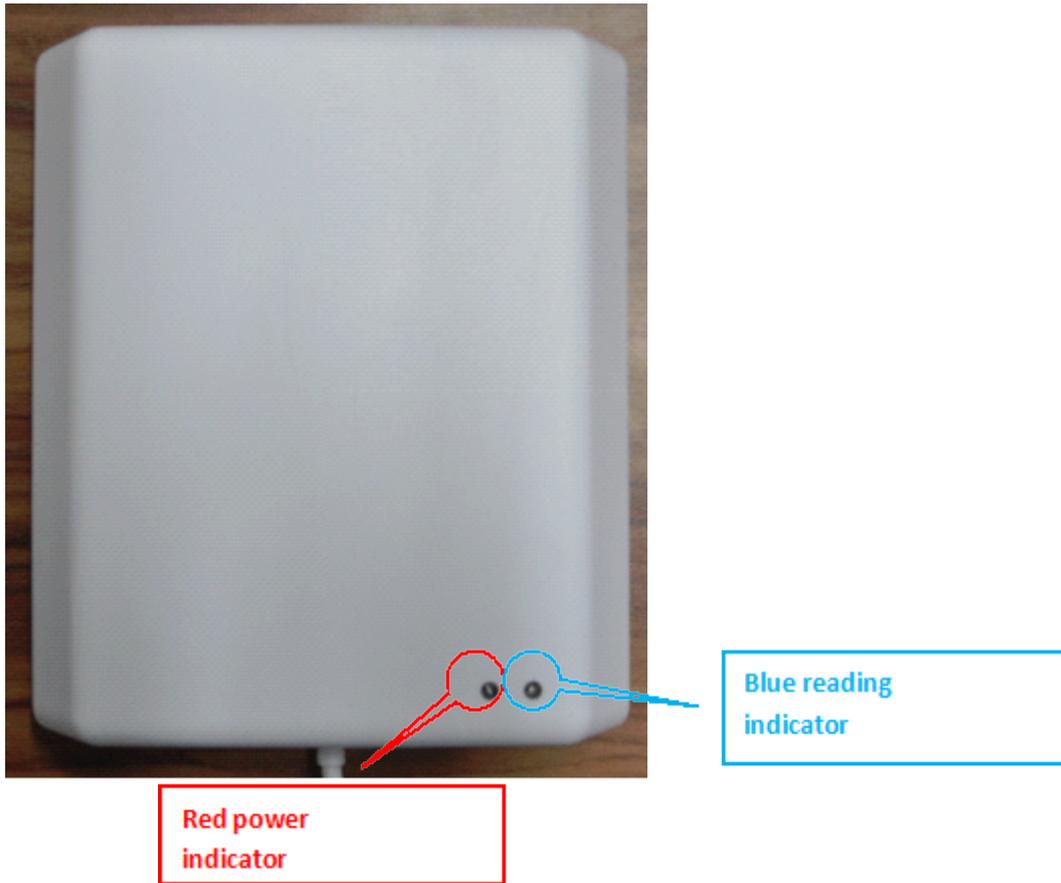


Figure4-1 hint light diagram

4-2.Control panel

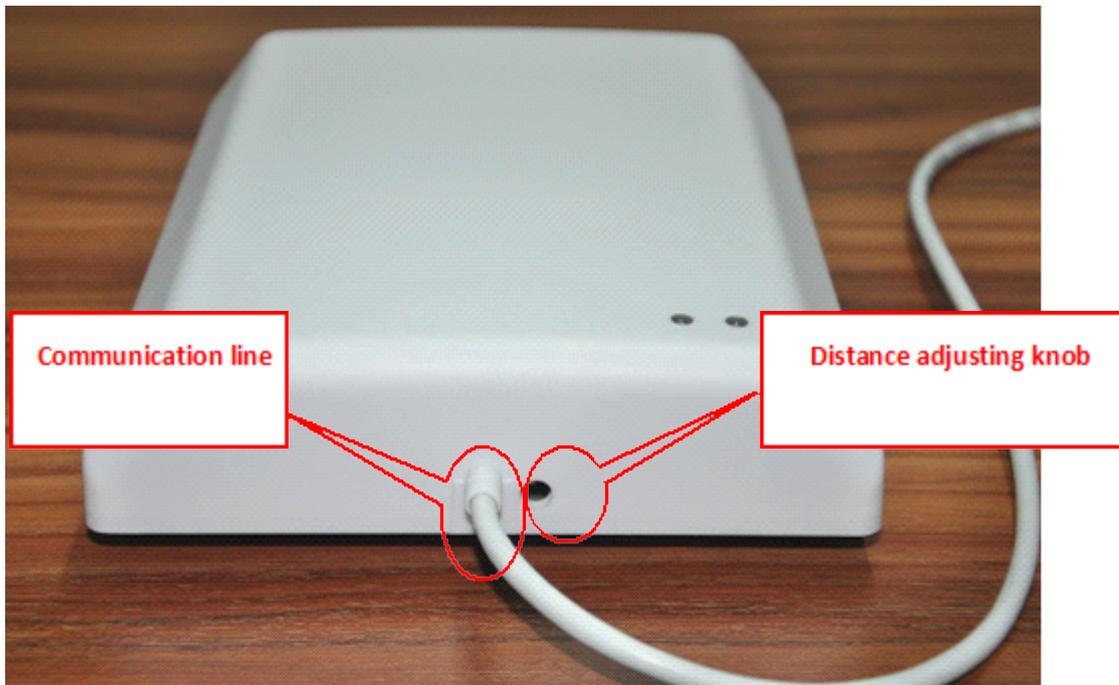


Figure 4-2 Control panel diagram

DR-TWI02W connecting lines: power line, opto-isolated input line, communication line (WG26).

Power supply: standard DC power adapter directly into power supply base, power supply should be DC12V, and rated current is 1A.

Optical-isolated input is used to input the trigger signal to the reader, short circuit of the port IN1 + and IN1- will start the reader.

4-3.Wiring definition

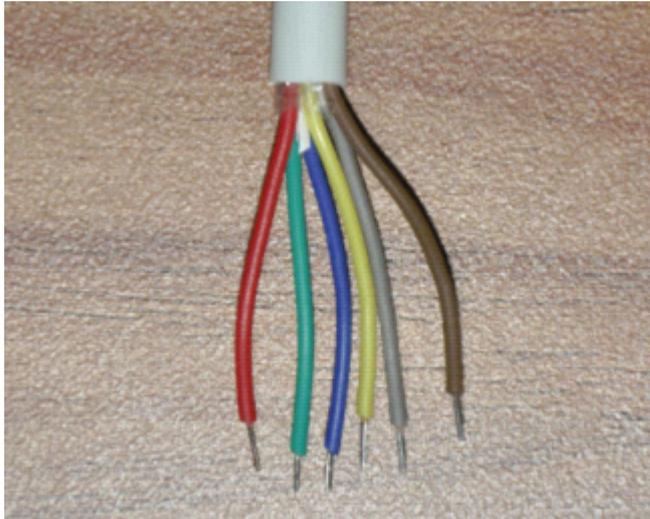


Figure4-3 Wiring diagram

Table 4-1 WG26 wiring definition

Colors	Definition
 Red	VCC
 Brown	GND
 Green	IN+
 Gray	IN-
 Yellow	WG0
 Blue	WG1

4-4.Distance adjusting knob

As shown in Picture4-2, we can adjust the reading distance through the adjusting knob, clockwise is to increase the reading distance, anticlockwise is to decrease the reading distance.

4-5.Installation method

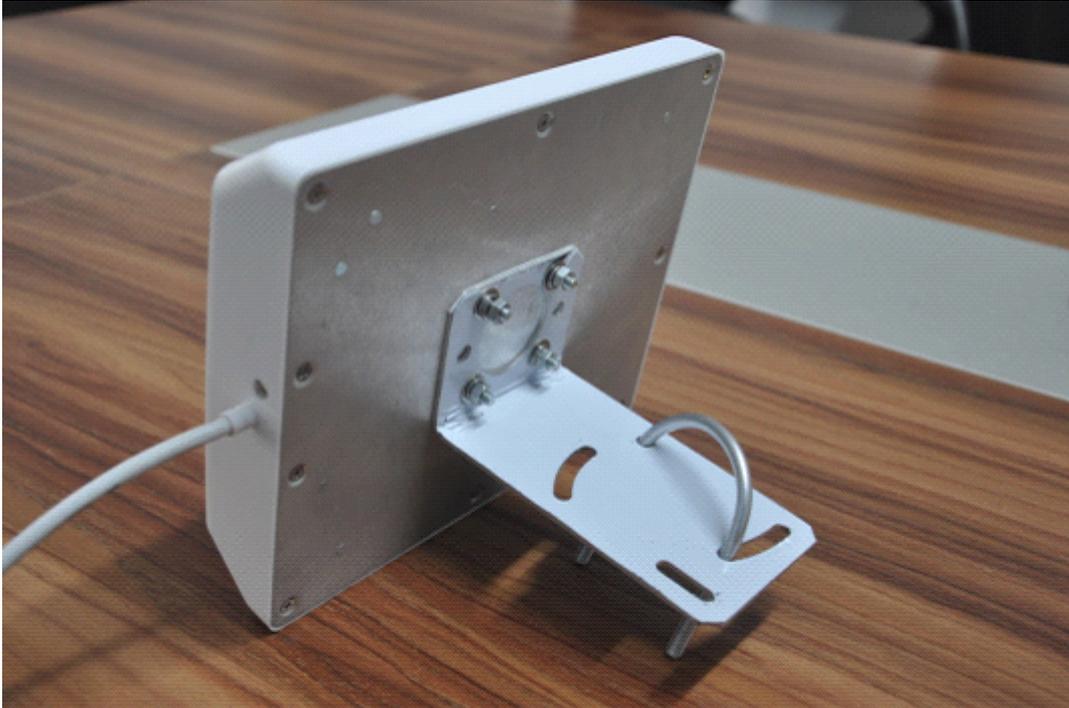


Figure 4-4 Installation bracket diagram

Open the packing box, take out the bracket; put the reader onto the hold pole at a right position, to tighten the screw on the bracket, the card reader is fixed on the hold pole (maximum hold pole diameter is 54mm).

4. Reader operating mode

Operating mode for DR-TWI02W WG reader (4-array): “passive” mode, in normal working the reader is in receiving status to receive real-time signals sent by “active” tag. And then it will send the received data to WG controller through WG26 to the upper computer.

6. Cautions

1. Do not disassemble the reader.
2. When reader is installed, we recommend that the reader has 1.8m distance and 45 degree angle with the ground.
3. To keep the reader surface clean and to ensure that no large area of metal objects at the front of the reader.

7. Troubleshooting

1. If front panel power light is off after power-on, please check whether the power connection is normal.
2. Reading card but no transmissions, check if the communication line is connected.
3. Reader is not reading card, check whether IN1 and IN- is short circuit.

8. Packing List

When you receive our product, packing list is as follow:

- | | |
|--|-------|
| 1. DR-TWI02W2.4G WG reader (4-array) | 1 |
| 2. DC power adapter (12V/1A) | 1 |
| 3. Reader Bracket | 1 set |
| 4. Installation Kit | 1 set |
| 5. Packing List | 1 |
| 6. DR-TWI02W Product specification (including warranty card) | 1 |
| 7. Product certification | 1 |
| 8. Small spread eagle screw knife(to adjust reading distance) | 1 |

9. After-sale Service

1. Client holds the right of product warranty with product invoice and warranty card when malfunction appears.

2. All equipments sold by our company will enjoy a two-year warranty from the date of purchase.

3. Anyone of the following is not covered by warranty. Non-warranty equipment, service center will charge.

1) No purchase invoice or no warranty card, client cannot provide valid evidence to prove the device is under warranty and it's 13 months beyond the date of manufacture.

2) The damage to equipment by vandalism and unauthorized disassembly.

3) The damage caused by improper maintenance, not in accordance with the use required by the manual.

4) The damage caused by force majeure such as earthquakes, floods, war and other causes of damage.

4. Please fill out warranty card completely, and send it relevant to manufacturer back to our company, carry out maintenance registration. And keep the warranty card associated with you. When repairing the product, you need to give over it to service center.

5. For the warranty to pay maintenance, fault repair has been completed, the same fault identified by the service center have a 90 day warranty period.

6. Please leave the accurate name and phone number, the service center will inform you to take the machine.

7. If you are not satisfied with after-sales service, the problem can be resolved through consultation. If no agreement is reached, the final standard is the contract signed by both parties.

The Company reserves the final interpretation of the above.

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