



IDF1 Series Smart Code Reader Manual



Chapter 1 Product instruction

1.1 Product Description

The smart readers mentioned in this brochure combine image capture, barcode recognition and output, and can be used in 3C, food and pharmaceutical, electronic semiconductor, automotive parts and other industries.

The device utilizes sensors and optics to acquire the image of the object under test, and realizes barcode parsing through the device's built-in deep learning code reading algorithm. The device can also output the detection results through a variety of communication methods.

1.2 Functional characteristics

- High-performance image sensors are selected for superior image quality.
- With motorized lens autofocus significantly improves commissioning efficiency.
- Support TCP/IP, Serial, FTP, HTTP and other transfer protocols.
- Built-in deep learning code reading algorithm, efficiently read all kinds of barcodes and 2D codes without fear of interference such as staining and breakage.
- The charging method is wireless charging, which makes charging more convenient.
- WiFi wireless communication, transmission distance is farther and faster.
- Multiple decoded alerts with buzzer, vibration and indicator lights.

1.3 Scanning gun use method

- Sweep gun power on: press the power on button for 3s and then power on, it can be decoded normally after 10s of power on.
- Scanning gun and base pairing: before use, please scan the scanning gun through the base of the back of the QR code will scanning gun and base for pairing, pairing success when the scanning gun screen above the WiFi icon shows connection, when the scanning gun buzzer briefly ringing after the scanning gun and base WiFi connection is successful can be a normal scanning code output. (Note: When the code scanning gun is paired with the base for the first time, you need to wait for 2-5s)
- Decoding information output: connect the base and computer via USB cable before decoding content output to the cursor specified, the end of the text output is automatically line feed (the terminator can be changed to carriage return or other customized characters detailed modification methods see the software instructions).

Note: Decoding message output requires successful pairing of the scanning gun and the base.



Instruction

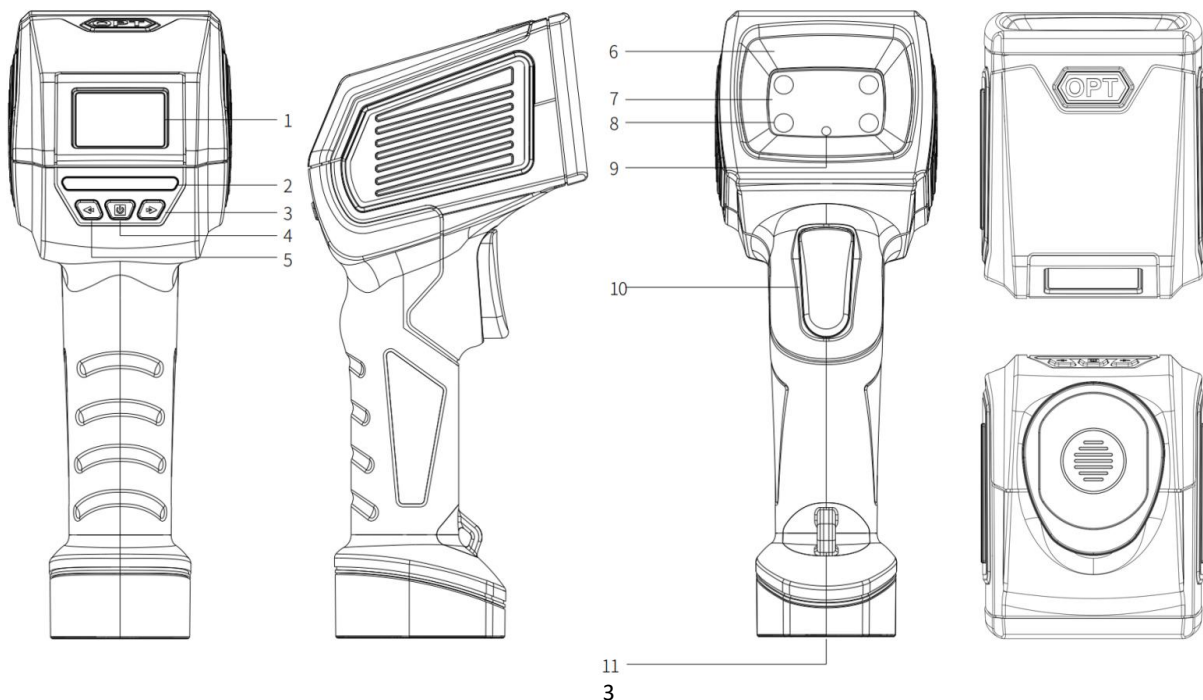
- Some functions depend on the specific model, please refer to the actual function.
- For technical parameters of the equipment, please check the technical specifications of the specific model.

Chapter 2 Product Description

2.1 Product appearance and function brief introduction

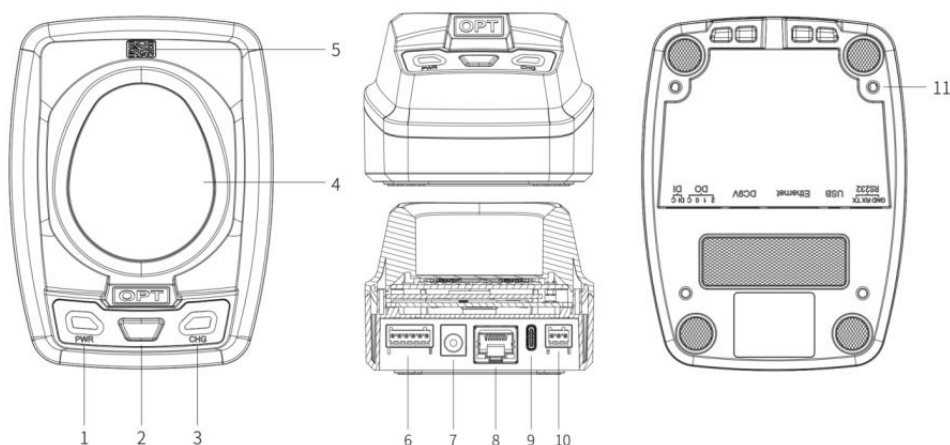


2.2 Handheld Code Reader Details



Number	Title	Description
1	Monitor	Status display for reader status and decoding results.
2	Decode Indicator	Decoding OK/NG indicator, decoding success green light, red light off; decoding failure red light on, green light off.
3、5	Configuration buttons	Used for program configuration
4	Power button	Short press can be used for program configuration, long press can be used for reader power on/off operation.
6	Blue light	Blue diffuse light source for diffuse fill light.
7	Lens hood	Combination lens hood with built-in light-transmitting glass and polarizing filter.
8	Red light	High brightness red light source for fill light.
9	Targeting device	Red cross laser pointer (wavelength 650nm)
10	Decode button	Push to decode
11	Battery	Removable battery and wireless charging coil at the bottom.

2.3 Wireless Charging Dock Details



Number	Title	Description
1	PWR indicator light	Chassis power indicator, power supply is normal, the indicator light is always on, abnormal is always off.
2	Call button	Seek button, used to find the position of the code reader, the code reader beeps when pressed.
3	CHG indicator light	Chassis charging indicator, when not charging, the indicator light is off, the indicator light flashes during the charging process, and lights up when fully charged.
4	charging coil	Used to wirelessly charge the reader battery.
5	pairing identifier	For pairing between the reader and the base.
6	IO interface	1 opto-coupler isolated input and 3 opto-coupler isolated outputs are available.
7	DC Power Interface	DC9V power connector for reader base power supply.
8	Ethernet interface	Gigabit Ethernet port for data transfer.
9	USB interface	USB interface for data transfer.
10	RS232 interface	Serial port for transferring data.
11	mounting hole	A total of 4 mounting holes for fixing the device with M3 size screws.

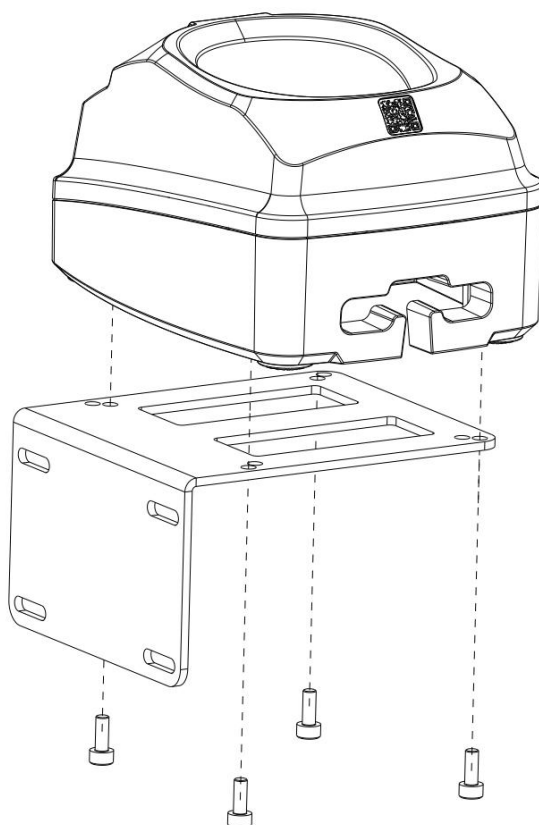
2.4 Scanning gun accessories

Number	Title	Quantity	Instruction	Procurement method
1	Handheld code reader complete	1	Scanning gun.	
2	Wireless charging base	1	Used for outputting sweep gun decoding information and battery charging.	
3	power adapter	1	DC 9V power adapter for powering the base.	
4	USB cable	1	Type-C USB cable.	
5	wiring terminal	1	Used to connect serial (3pin) and DI/O (6pin) wiring ports.	
6	cable	1	Gigabit cable, type optional.	optional
7	serial port cable	1	Rs232 interface serial cable, optional 3m, 5m, 10m, 15m length wire.	optional
8	Fixed bracket	1	Used to secure equipment.	optional
9	M3 size screws	4	Used to secure equipment.	optional

Table 1-1 Suggested Accompanying Items

2.5 Equipment fixing

Secure the reader base to the mounting position. There are 4 mounting screw holes on the bottom of the base and it is recommended to use the M3 size screws included in the package for fastening.



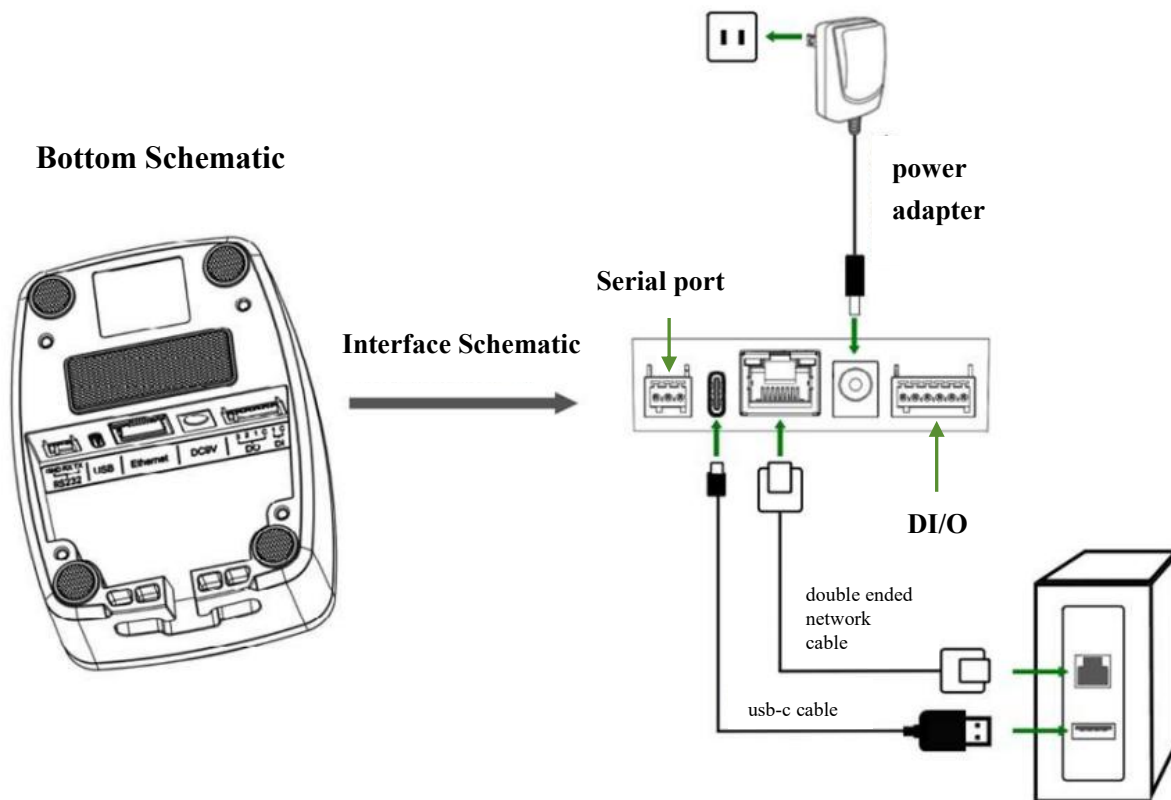
2.6 Scanning gun performance parameters

transducers	CMOS,global shutter
resolution (of a photo)	1920x1200
Image size	3.0μm*3.0μm
Size of target surface	1/4"
lens focal length	8.5mm (Support auto-focus)
gain	1dB~16dB
Maximum processing frame rate	25fps
exposure time	20us~1sec
Barcode Category	one-dimensional:Code39, Code128,EAN13,UPC_A,UPC_E,EAN8,ITF ... two-dimensional:QR Code,DataMatrix...
Minimum barcode accuracy	3mil
communication method	WiFi4 (2.4GHz band)
Wireless communication distance	125m (open range)
sight	Red Cross Laser
light source	Red light, Blue light
Charging method	wireless charging
battery capacity	4500mA
working power	Scanning gun working power: 2~5.2W; Base operating power: 1.5~2W; Chassis charging power: about 11W
Number of scans with a full charge	22000+
working hours	5.5h
Charging time	Power off charging: low speed charging (usb power supply) 8h; High-speed charging (adapter-powered) 2h
Protection level	IP62
Drop Specification	1.8m Multiple falls on concrete
sizes	174.4mm×68mm×90.8mm
weights	205.5mm×73mm×92mm (base not included, base size: 112mm×83.9mm×62.3mm)
Environmental humidity	<85%RH (non-condensing)
operating temperature	-10-50°C

Chapter 3 Introduction to Use

3.1 How to use the communication base

3.1.1 Wire connection for communication base



- Chassis power supply:
 - ① Connect USB to provide DC5V voltage, which can support the normal operation of the base and the charging of the scanning gun.
 - ② Connect the adapter to provide DC9V voltage, which can support the normal operation of the support base and the fast charging of the scanning gun.
- Text transfer: Connect the dock with the USB cable.
- Debugging/ICP transmission: Connection to the network cable as shown in the picture above or to the base unit via WiFi.

3.1.2 Communication Chassis Interface Introduction

- ① Power supply: the communication base supports usb-c (DC 5V) power supply and adapter (DC 9V) power supply. usb power supply only supports low-current slow charging of the battery (it takes about 9H to be fully charged), and connecting with the adapter provides high-current high-speed charging (it takes about 1.8h to be fully charged).

- ②Network: The communication base supports wired connection (100Mbit/s) and wireless connection, when connecting wirelessly, scan the QR code at the back of the base to recognize the WiFi name and WiFi password (WiFi name: OPTMV-AP-XXXX,password: OPTMV688686).
- ③Serial port: The serial port of the communication base is RS-232 protocol serial port, which can be connected with 3m, 5m, 10m and 15m wires.The maximum output baud rate is 1500000, and the current output baud rate is 9600.
- ④DI/O: 1 optocoupler isolated control input, 3 optocoupler isolated control outputs.

3.2 Scanning gun use method

3.2.1 Scanning gun with base WiFi connection

The code scanning gun needs to be connected to the base WiFi before use, scan the QR code at the back of the base for WiFi pairing. When the scanning gun is paired with the base WiFi to output, one base can support more than one scanning gun connection. When you can't confirm the connection between the base and the scanning gun, you can use the “CALL” button on the front of the base to find the scanning gun paired with the base. When the “CALL” button is pressed, the buzzer of the scanner gun will keep beeping for 5-6s, which is convenient to confirm the location of the scanner gun.

3.2.2 Scanning gun decoding

When decoding the code gun, please place the code gun at 80mm above the QR code (default working distance, can be adjusted by yourself), press the trigger, decode successfully the decoding indicator at the bottom of the screen will turn green, the motor will vibrate, and the buzzer will sound. After successful decoding, the decoded content will be displayed on the small screen, and at the same time, the code content will be output to the cursor indication position through the usb interface. Decoding failure when the bottom of the screen decoding indicator light red, decoding failure, please will be Changan trigger slightly move the scanning gun (tilt the scanning gun or adjust the working distance) can help to re-recognize the two-dimensional code.