



iDW431

Wi-Fi Smart Power Sensor

Quick Guide

Version :001.0003-01
Issue Date :2025-09

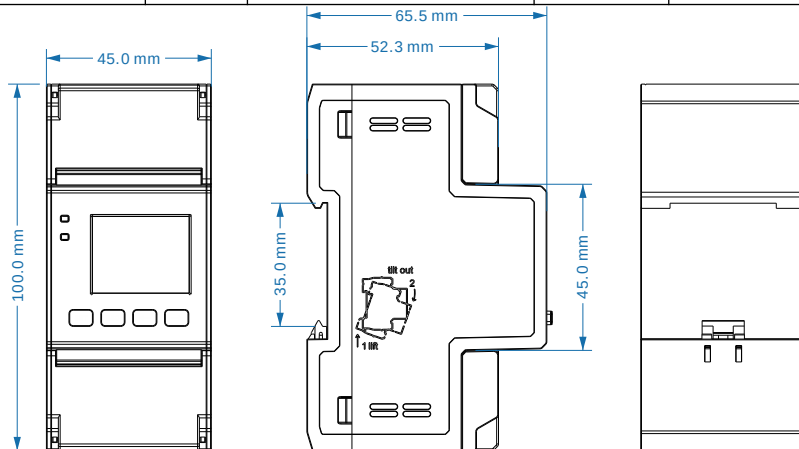


ZTW0.464.1944EN

1 Overview

1.1 Models

Type	Width	Dimension (L*W*H)/mm	Net weight/g	Install Dimension (Rail)
iDW431	2.5	100×45×65.5	Approx. 146	DIN35 standard rail



NOTE Unmarked tolerance is $\pm 1\text{mm}$;
The appearance, dimensions information please refer to the actual product received.

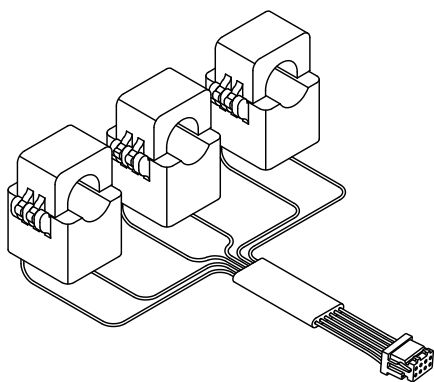
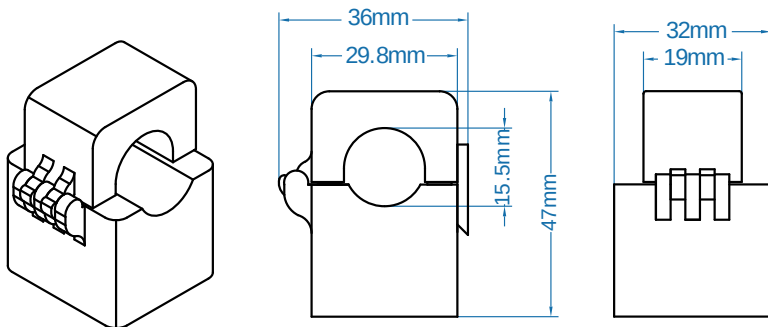
1.2 Performance and Specification

Type	iDW431
Nominal voltage	$3 \times 220/380\text{V} \dots 3 \times 240/415\text{V}$
Nominal current	100A/40mA
Frequency	50/60Hz
Voltage range	$0.8U_n - 1.15U_n$
Electrical energy accuracy	Class B
Power grid system	Three-phase four-wire
Baud rate	1200bps/2400bps/4800bps/9600bps (default 9600bps)/19200bps/38400bps/115200bps (optional)
Temperature	-25°C to 55°C (nominal), -40°C to 70°C (extreme)
Way to install	Rail installation
Certification	CE, RoHS

1.3 Current transformer(CT)

Type	Cable length/mm	Net weight per CT/g
100A/40mA	6000 ± 20	Approx. 79

- 100A CT



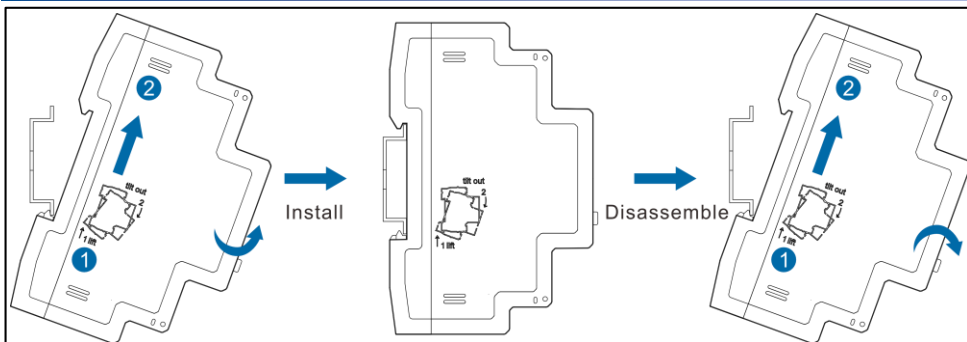
NOTE

The dimensional tolerance is $\pm 1\text{mm}$;

The appearance, size and information are subject to actual objects.

The maximum tensile force of each CT cable is 15N m. Press the buckle of the CT assemble connector and pull out.

2 Install



3 Installing the Cables

3.1 Prepare cables

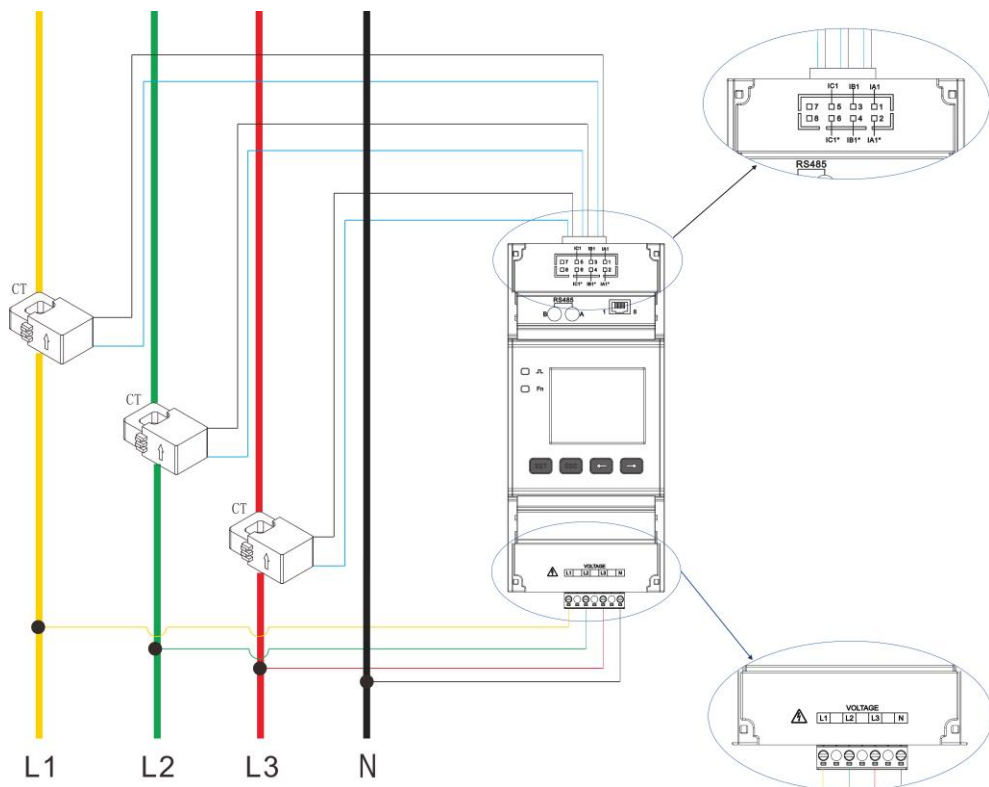
Cable	Port	Type	Conductor Cross-sectional Area Range	Outer Diameter	Source
AC power cable	L1(Ua)	Multi-core outdoor copper cable	1.5mm ² ~2.5mm ²	3mm~5mm	Prepared by the customer
	L2(Ub)				
	L3(Uc)				
	N				
CT cable	IA1*、IA1	/	/	/	Manufacturer
	IB1*、IB1				
	IC1*、IC1				
Communication cable	RS485	Two core outdoor shielded twisted pair	0.25mm ² ~1mm ²	4mm~11mm	Prepared by the customer
	RS485(RJ45)	Cat 6 Ethernet Cable	/	/	

NOTE The maximum torque of AC power and comm. terminal screws is 0.5N·m, and the recommended torque is 0.45N·m.

The recommended skive wire length is 7mm.

3.2 Wiring diagram

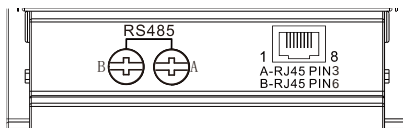
- eg. Three-phase four-wire, 'nEt' = n.34



⚠ CAUTION

Before connecting cables, ensure that the Smart Meter is not damaged in any way; Please ensure that the grounding wire is securely installed; Before powering on, please ensure that the wiring is correct, otherwise electric shock, damage to the smart meter, or fire may occur.

3.3 Communication Connection

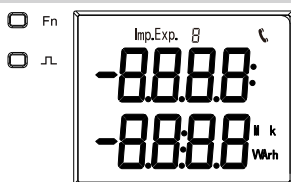


- **RS485**

There are two types of connection interfaces. Screw type and RJ45 type. The default A is PIN3 and B is PIN6 in RJ45. Please note that the customer's customized requirements shall be subject to the actual product.

4 User Interface

4.1 LED and LCD overview



NOTE The figure above is for reference only, please refer to the actual product received.

- **LED**

“” indicates energy pulse respectively; “Fn” is a red blue dual color function indicator light.

No.	Description	Light Status
1	STA connection	The blue light is always on
2	AP connection	The red light is always on
3	AP and STA connection	The blue and red lights are always on
4	Sending data	The red light is flashing
5	Receiving data	The blue light is flashing.
6	AP and STA are not connected	Function light off

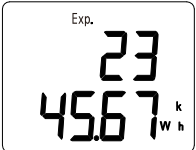
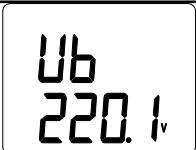
- **LCD**

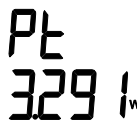
No.	Symbol	Description
1	Imp.	Import direction
2	Exp.	Export direction
3		Flash during 485 communication
4		Unit (according to the display items)

4.2 Display

Press the “←” and “→” keys to switch the display items. The display items is listed in following table.

The sequence and items is varied from product types, please refer to the actual product received.

No.	Display interface	Description
1		Total positive active energy = 10000.00kWh
2		Total inverse active energy =2345.67kWh
3		A-phase voltage =220.0V (no page for three-phase three-wire)
4		B-phase voltage =220.1V (no page for three-phase three-wire)
5		C-phase voltage =220.2V (no page for three-phase three-wire)
6		Line voltage Uab = 220.0V

No.	Display interface	Description
7		Line voltage $U_{bc} = 220.0V$
8		Line voltage $U_{ca} = 220.0V$
9		A-phase current = 5.000 A
10		B-phase current = 5.001A
11		C-phase current = 5.002A
12		Combined active power = 3.291kW
13		A-phase active power = 1.100 kW
14		B-phase active power = 1.100 kW

No.	Display interface	Description
15		C-phase active power = 1.100 kW
16		Power factor PFt=1.000 (direction consistent with active power)
17		A-phase power factor PFa=1.000 (for three phases and three wires, "_____" is displayed)
18		B-phase power factor PFb=1.000 (for three phases and three wires, "_____" is displayed)
19		C-phase power factor PFc=1.000 (for three phases and three wires, "_____" is displayed)
20		Frequency =50.00Hz
21		The first communication serial port is Modbus, and the communication address is 11
22		The baud rate of the first communication serial port is 9600bps The first communication serial port has 8 data bits, no check bit, and 1 stop bit

No.	Display interface	Description
23		IP Address (Page 1)
24		IP Address (Page 2)

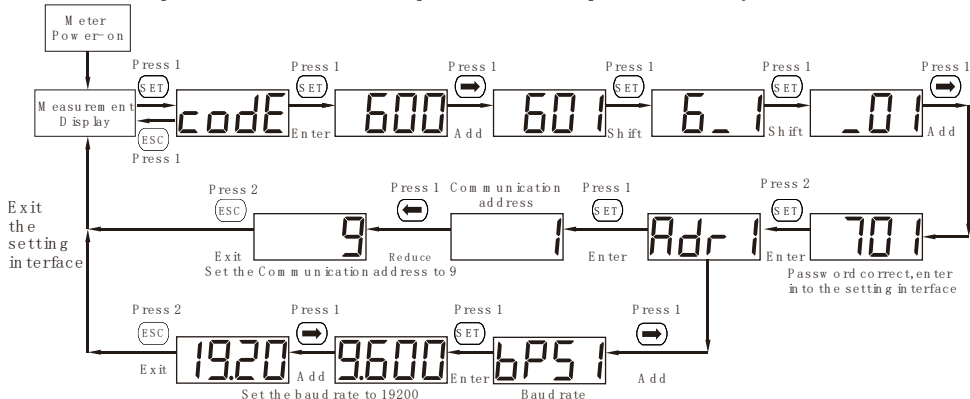
4.3 Parameter

Parameter	Value range	Description
Adr1	1~247	Communication serial port Modbus protocol communication address (485 serial communication and wireless module communication share this parameter)
bPS1	1.200; 2.400; 4.800; 9.600; 19.20; 38.400; 115.2	485 communication serial port baud rate 1.200:1200bps; 2.400:2400bps; 4.800:4800bps; 9.600:9600bps; 19.20:19200bps; 38400:38400bps 115.2:115200bps

 **NOTE** The parameters can be customized according to customer needs.

4.4 Parameter Setup

Button description: "SET" represents "confirm" or "cursor shift" (when entering digits), "ESC" represents "exit", "←" represents "reduce", and "→" represents "add". The password is 701 by default.



When modify digits, " SET " can be used as cursor shift button ; " → " is " add " button; " ESC " represents exiting the setting interface or switch to the character interface from digit modification interface, restarting adding from zero after setting the digits to be the maximum value.

 NOTE If the communication is abnormal, check and set parameters.

5 WiFi network configuration method

5.1 Configure network through Bluetooth

- ① Open the correct network configuration app
- ② Search for Bluetooth devices in the software and find the correct device
- ③ Connect the correct Bluetooth device and complete the security authentication process
- ④ Enter the SSID (required) and password (optional) in the distribution network interface to complete

the Wi Fi connection

The usual name for electric meter equipment is "ZT+SN"

 **NOTE** The maximum SSID input is 32 bytes, and the maximum password is 63 bytes. Only numbers, letters, and symbols are supported.

CAUTION At present, the electricity meter only supports 2.4GHz frequency band WiFi

6 Diagnosis , analysis and elimination for common faults

Fault phenomenon	Reason analysis	Elimination
Abnormal RS485 communication	1. The RS485 communication cable is disconnected, short circuit or reversely connected. 2.The address, baud rate, data bit and parity bit of the instrument is not in accordance with the inverter. 3.The RS485 communication cable is not equipped with a matching resistor at the end (usually when the distance exceeds 150 meters); 4. Check whether external devices are reliably grounded; Note: The communication protocol command between the instrument and the host does not match.	1.If any problems for the communication cable, please change the cable. 2.Set the address, baud rate, data bit and parity bit of the instrument to be the same as the inverter through buttons and so as the "parameter setting". Note: If the communication distance exceeds 150 meters and the communication parameters between the instrument and the host are the same, but communication still cannot be achieved, please reduce the communication baud rate or add a 120 Ω resistor at the beginning and end of the communication cable (the resistance value can be adjusted according to the on-site conditions).
No display after the instrument being powered on	1.Incorrect wiring mode. 2.Abnormal voltage supplied for the instrument.	1.If the wiring mode is incorrect, please connect based on the correct wiring mode (see the wiring diagram). 2.If the supplied voltage is abnormal, please supply the voltage on the instrument specification.
Connection to router failed	1.Wi Fi name or password input error. 2. The router does not support the 2.4GHz frequency band. 3. Not within the coverage range of the router signal. 4. The router has set MAC address filtering and the device is not on the whitelist. 5.,Incorrect use of equipment antenna.	1.Check if the Wi Fi name or password is entered incorrectly. Names can support up to 32 characters, passwords can support 8-63 characters, and Wi Fi names and passwords only support letters, numbers, and symbols. 2. Check if the router supports the 2.4GHz frequency band. Currently, the device only supports connecting to Wi Fi in the 2.4GHz frequency band. 3. Move the device within the signal coverage range of the router to avoid wall obstruction. 4. Check if the router has set MAC address filtering. If so, add the device's MAC address to the whitelist or disable the MAC address filtering function. 5. Check the position of the antenna and try to install it within the signal coverage range of the router, ensuring that the antenna segment is tightened. Do not disassemble or replace the antenna without authorization, as non original antennas may cause the device to malfunction.

7 Warranty and Service

The manufacturer implements three guarantees for product quality. Within 18 months from the date of delivery, if the user fully complies with the provisions of this manual and the factory seal is still intact, the instrument is found damaged during use, and the company is responsible for free repair or replacement.

8 Environmental protection

Dear customer:

Please help us do one thing, when this product at the end of its life, in order to protect our environment, please do a good job of recycling the product or its parts and materials. Please also dispose of materials that cannot be recycled. Thank you very much for your cooperation and support.

9 Statement

1. The products, services or features purchased by you are subject to the commercial contracts and terms signed with the Company, and all or part of the products, services or features described in this manual may not be included in the products purchased by you.
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10 Manufacturer Information

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