

NBL-HWS Handheld Weather Station Instruction Manual



Contents

1、 Product Profile	2
2、 Functional Characteristics	2
3、 Technical Parameter	2
4、 Installation method	3
4.1 Installation of sensors	3
4.2 Battery installation	4
4.3 Key function description	4
5、 Menu instructions	4
5.1 Parameters display	4
5.2 Parameter modification	5
5.2.1 Device setup	5
5.2.2 System time setting	5
6、 Use of software	6
6.1 Installation of software	6
6.2 Software operation	8
6.3 Methods for exporting the data	13
7、 Notice	14
8、 Wind speed scale	14
9、 Contact Us	15

1、 Product Profile

PH-II Handheld Weather Station is a portable meteorological observation instrument that is easy to carry, easy to operate, and integrates multiple meteorological elements. The system adopts precision sensors and smart chips, which can accurately measure the five meteorological elements of wind direction, wind speed, atmospheric pressure, temperature and humidity at the same time. The built-in large-capacity FLASH memory chip can store meteorological data for at least one year; the universal USB communication interface can download the data to the computer with the matching USB cable, which is convenient for users to further process and analyze the meteorological data.

This instrument can be widely used in meteorology, environmental protection, airports, agriculture, forestry, hydrology, military, storage, scientific research and other fields.

2、 Functional Characteristics

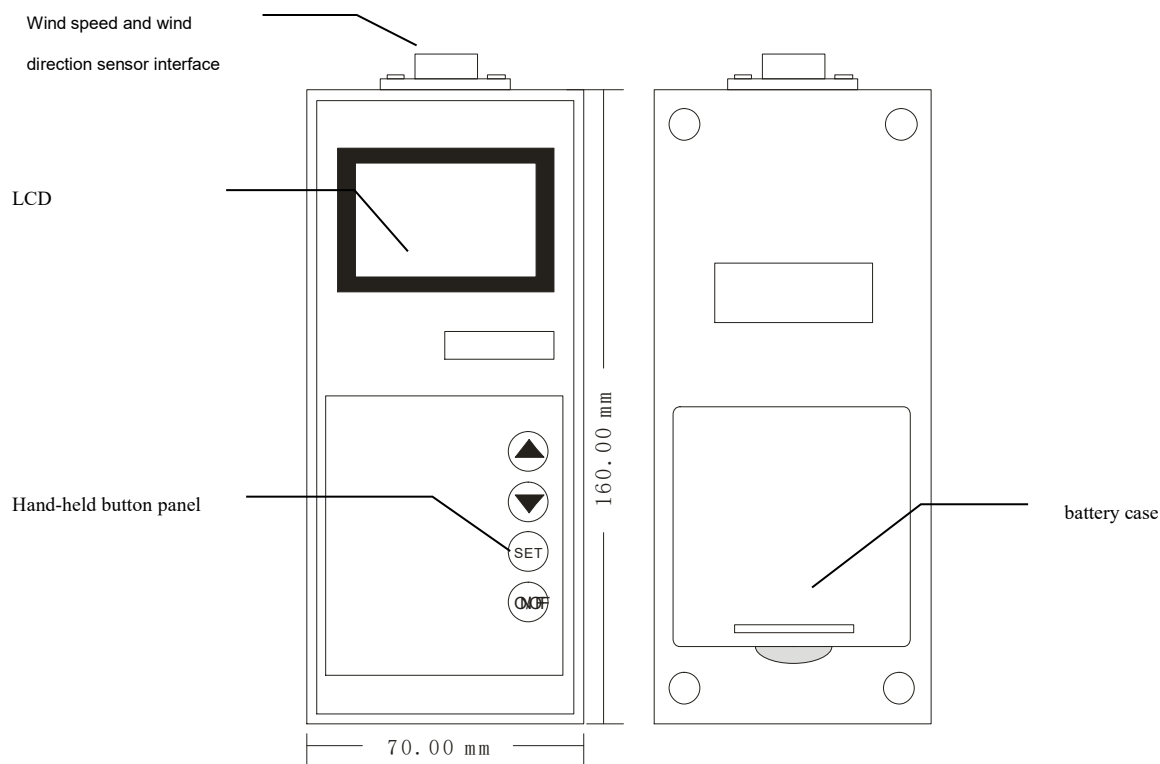
- 128×64 large-screen LCD display temperature, humidity, wind speed, air pressure;
- Special wind direction dial (16 directions) and pointer are used to indicate real-time wind direction;
- Large-capacity data storage, which can store up to 40960 meteorological data (data recording interval can be set between 1 and 240 minutes);
- Universal USB communication interface, convenient for data download;
- The system language can be switched between Chinese and English;
- Only need three AAA dry batteries for power supply; low power consumption design, long-time standby;
- Scientific and reasonable structural design, easy to carry.

3、 Technical Parameter

	Measuring elements	Range	Accuracy	Resolution	unit
Weather Parameters	wind speed	0~45	±0.3	0.1	m/s
	wind direction	16 directions	± 1 directions	1 directions	directions
	air temperature	-50~80	±0.3℃	0.1	℃
	relative humidity	0~100%	±5	0.1	%RH
	atmospheric pressure	10~1100	±0.3	0.1	hPa

Power supply	AAA dry cell (3 sections)
Communication	USB
Storage	20000 Data
Mainframe size	160mm×70mm×28mm
Machine size	405mm×100mm×100mm
Weight	About 0.5Kg
Work environment	-20°C~80°C; 5%RH~95%RH

4、Installation method







4.1 Installation of sensors

- (1) Insert the wind speed sensor part into the sensor interface on the top of the hand-held weather instrument, and tighten the fixing screw cap clockwise.
- (2) Unscrew the screw cap on the top of the wind speed sensor, install the wind direction sensor part on the corresponding interface, and tighten it clockwise.

4.2 Battery installation

Open the battery compartment cover on the back of the instrument, and install the 3 batteries in the battery compartment in the correct direction; after the installation is complete, close the battery compartment cover.

4.3 Key function description

Key	Functional Description
	Modify the parameter key: pre-set the parameter value plus 1.
	Modify parameter key: pre-set parameter value minus 1.
	Function switching key: through this key, you can enter the setting interface of "time setting", "local address", "storage interval", "language setting" and "parameter reset"; the next page. It is also used to switch the currently operable parameters. Note: After all parameters are modified, the modified parameters will take effect when switching to the main interface.
	Power switch.

5、 Menu instructions

5.1 Temperature, humidity, wind speed, wind direction, time, and battery level display



11/12/05	15:00:44	—
Temp:	12.9°C	
Hum:	70.5RH	
Batt:	81.5%	

11/12/05	15:00:44	—
WS:	0.0m/s	
Pa:	1020.5hpa	
VN:	V120303	

Interface 1

Interface 2


After the hand-held weather instrument is turned on, the system main interface (interface 1) as shown above will be displayed. This interface displays the current time and real-time weather values collected by each sensor. The battery symbol shows the remaining power of the system.

Press  to enter interface 2, and you can view relevant numerical information. Similarly, press  to return to interface 1.

5.2 Parameter modification





5.2.1 Native address, storage interval, language setting, and parameter reset setting


Address	【 1 】
storage interval	【 1 】
language	【 English 】
Parameter Reset	【 no 】

In interface 1 or interface 2, press the  key to enter this interface. You can set the local address, storage interval, language setting and parameter reset. The default local address is "1"; the storage interval can be set between 1 and 240 minutes; the language can be set to "Chinese" or "English"; when the parameter reset is selected "Yes", the system will perform a reset operation.

5.2.2 System time setting

Y	M	D
11	12	05
H	M	S
15	32	47

Press the  key to enter the time setting interface, and the parameter where the cursor is displayed in reverse is the current modifiable item, and the parameter can be set through  and ; after modification, switch to other parameter items that need to be modified through .

Note: After modification, when switching to the main interface through , the modified parameters are automatically saved and take effect.

6、 Use of software

6.1 Installation of software

Put the CD into the CD-ROM drive of the computer, open and run, and see the following icon



Double-click this icon to install, double-click to run and decompress, and you will see the following interface;



Click "Next", the following interface appears



You can change the software installation path according to your preferences. Here, select the default installation, click "Next", and the following interface will appear



Continue to click Install, the following interface appears



Click Finish, and the following icon will appear on the desktop. This is the desktop shortcut of the automatic weather station. If you want to run this software, double-click it directly to enter the software interface. At this point, the automatic weather station software has been installed.



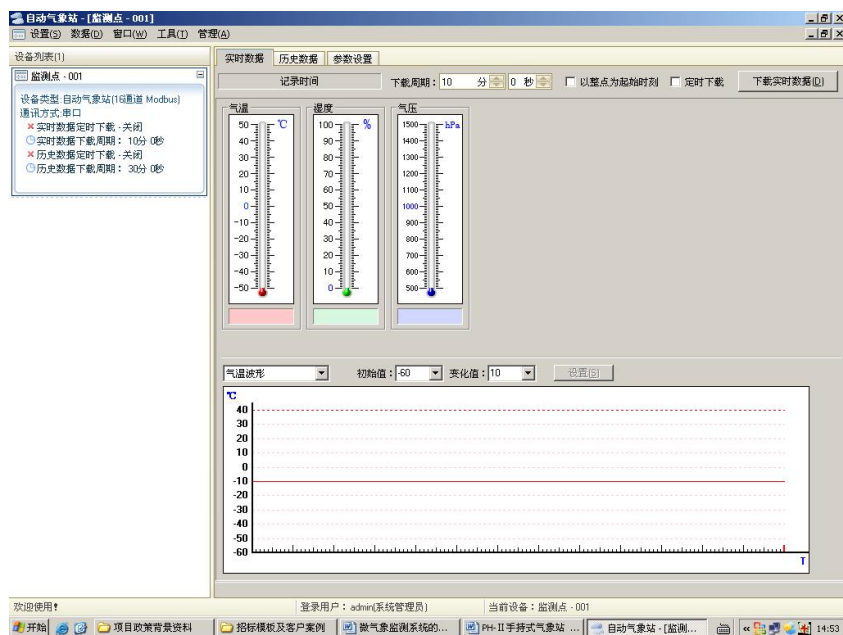
6.2 Running setting and usage method of the software

- 1、Double-click the automatic weather station software icon on the desktop, the following interface appears

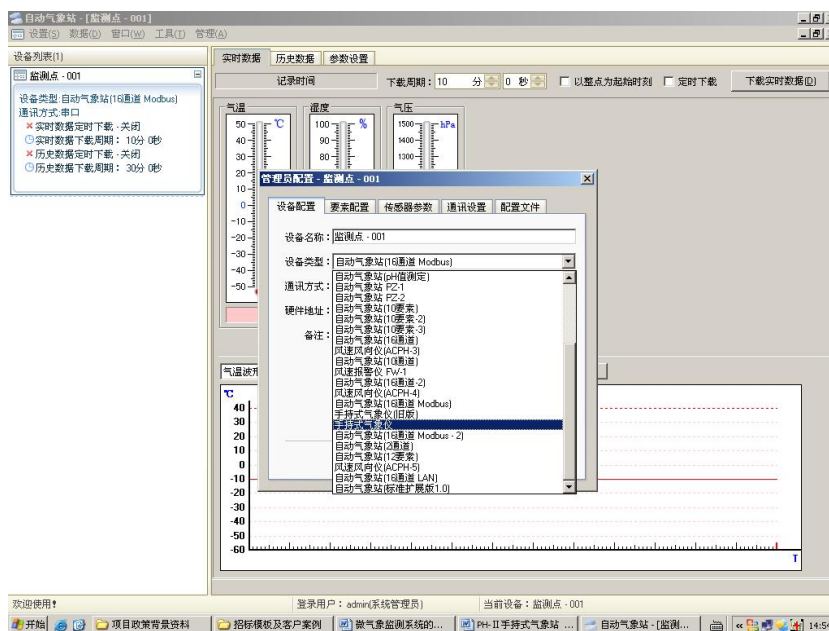


When logging in for the first time, select the default login, and the user name and password are both "admin" at this time. After logging in, enter "admin" in the "Management"—"User Management" in the upper left corner of the software to enter the new interface Username and password can be reset;

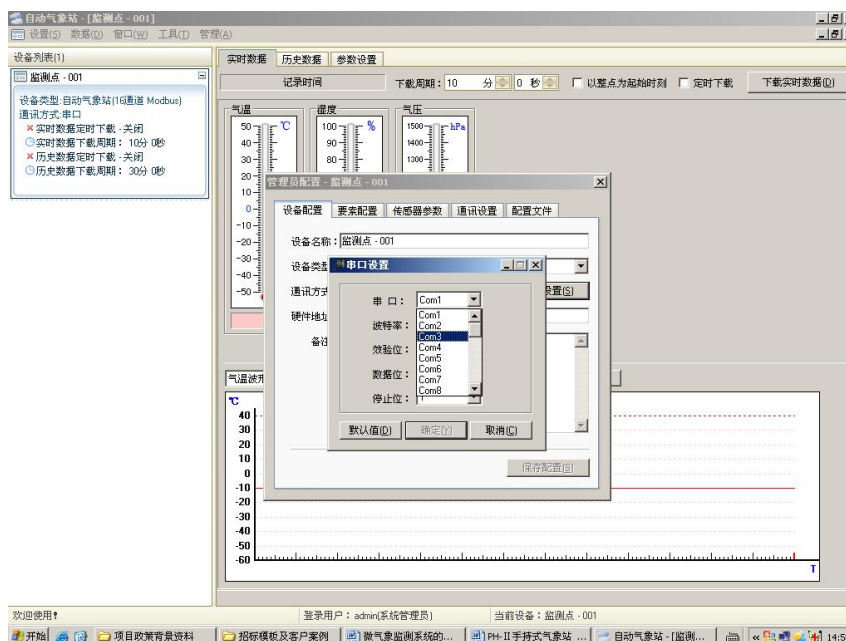
2、After logging in, the following interface is displayed:



After logging in, the default device type is: automatic weather station (16-channel Modbus), put the cursor in the device type box on the left, double-click the left button, and the administrator configuration interface will appear;

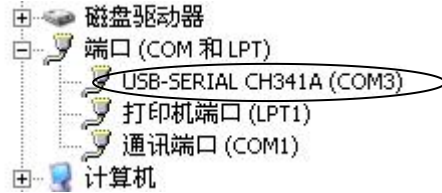


- 3、 In the "Device Type" drop-down menu in the "Device Configuration" column, select "Handheld Weather Instrument", select "Serial Port" as the communication method, click "Serial Port Settings", and the "Serial Port Settings" window will appear. The column provides 32 serial ports for you to choose, but you must select the corresponding serial port to achieve correct communication;

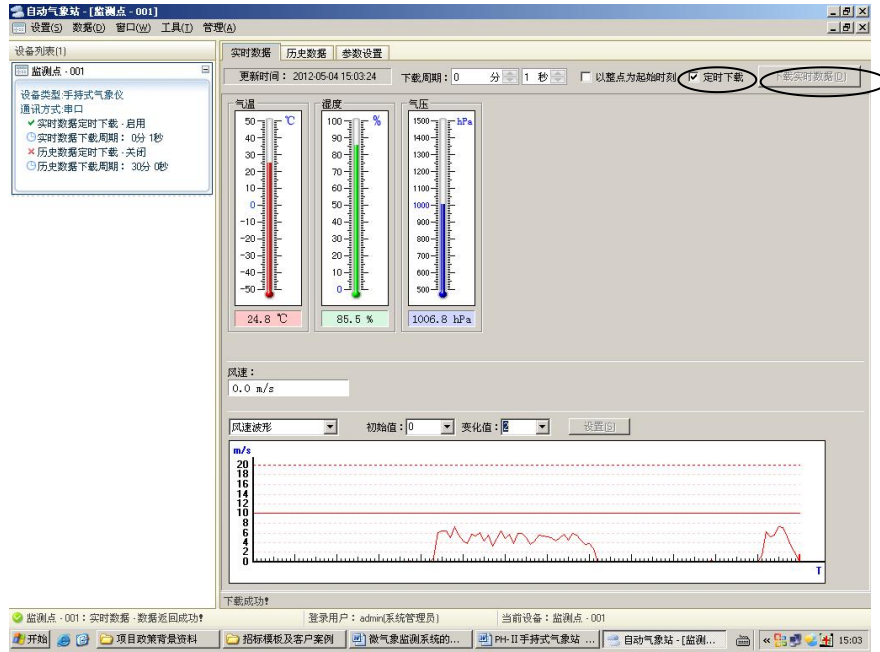


If you want to realize communication on the computer, you need a USB adapter cable at both ends, connect the computer and the handheld weather station, turn on the handheld weather station,

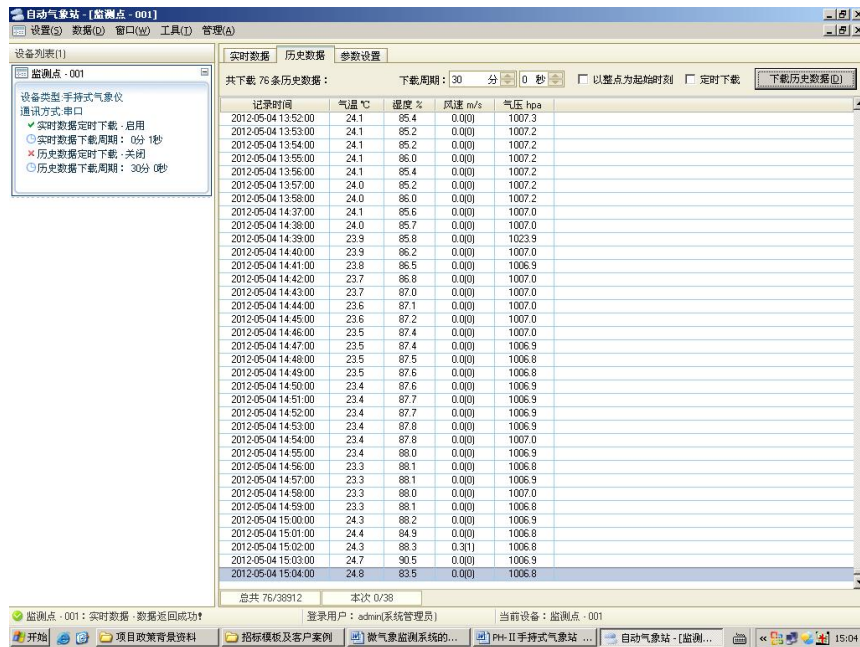
and a corresponding dialog box will appear after the connection, click directly by default, and the installation is complete The driver is connected. Back click on "My Computer", click "Device Manager", as shown in the figure:



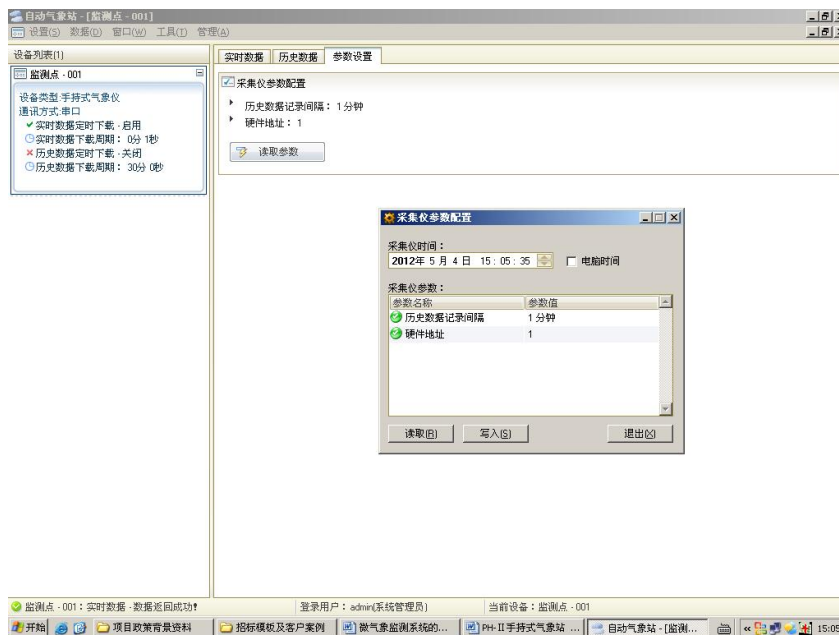
- 4、 In the "USB-SERIAL CH341A (COM3)" column, you can see that the connection is COM3 port, then, in the pop-up serial port setting window, select "COM3" for the serial port, and do not make any changes to the others, click "OK" , after "Save Settings", click the fork in the upper right corner of the administrator configuration to exit the administrator configuration interface. At this time, the handheld weather station has been connected to the computer and returned to the main page;
- 5、 Data can be downloaded manually or automatically on the main page. When downloading data manually, just click "Download real-time data" in the upper right corner of the interface to download the data. When downloading data automatically, adjust the "Download cycle" to the value you set, click "Scheduled download", and the interface will After downloading the data, the corresponding "temperature", "humidity", "air pressure" and "wind speed" values will be displayed;
- 6、 Below the main interface are "temperature waveform", "humidity waveform", "wind speed waveform" and "air pressure waveform". Corresponding waveform change curve;



7、In the "Historical Data" column of the main interface, you can also download data manually and automatically. After downloading the data, it can be displayed on the main interface for viewing and analysis;

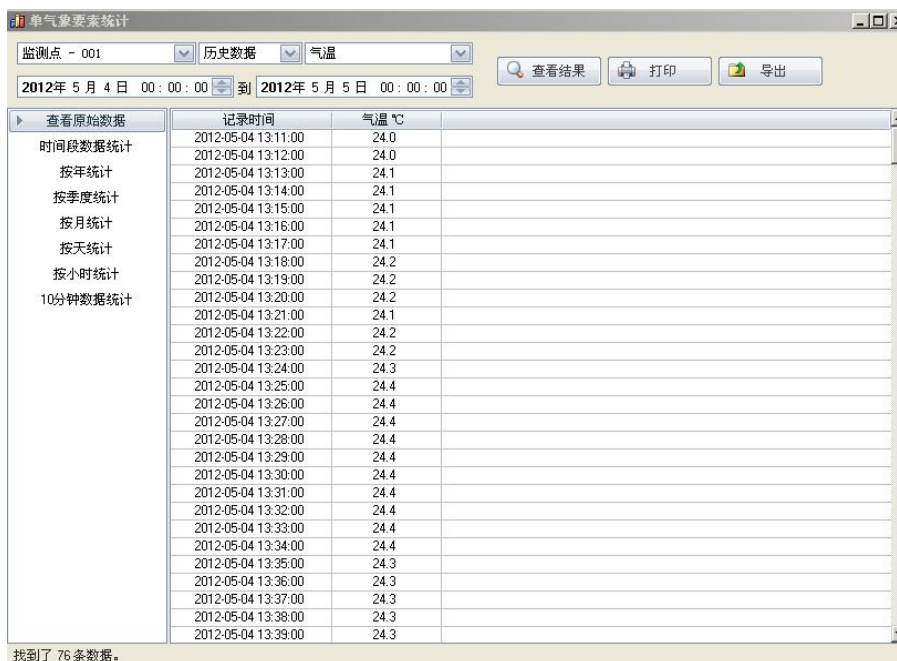


8、In the column of "Parameter Setting" on the main interface, you can read and reconfigure the parameters of the handheld weather station.



6.3 Methods for exporting the data

There is a "Data" option in the upper left corner of the main interface, and there are corresponding data statistics methods in the drop-down menu. Taking the statistics of single meteorological elements as an example, first click "Data Statistics" in the "Data" drop-down menu, and then click "Single Meteorological Element Statistics", after clicking, the following interface appears.



After setting the statistical elements, statistical time, and statistical method, click "View Results", and the corresponding data will appear on the interface, and then click "Export", and the following interface will appear



After adjusting the "File Name" and "Save Type", click Save to export the corresponding data into the corresponding file format.

7、 Notice

1. Please read this manual carefully before use to ensure that the sensor is inserted into the corresponding sensor interface and the direction of the battery is correct;
2. When the instrument shows that the battery is low, please replace the battery in time to prevent the battery from leaking and damaging the instrument;
3. Prevent chemical reagents, oil, dust, etc. from directly infringing on the sensor, do not use it for a long time under condensation or extreme temperature environments, and do not perform cold or thermal shock;
4. The instrument is a precision device, please do not disassemble it by yourself to avoid damage to the product when using it;
5. Please keep the verification certificate and qualification certificate, and return it with the product when repairing.

8、 Wind speed scale

Rate	陆地地面物体特征	风速(米/秒)
0	Quiet, the smoke is going straight up	0~0.2
1	The smoke can indicate the direction of the wind, and the leaves shake slightly	0.3~1.5
2	The human face feels the wind, the leaves move slightly	1.6~3.3
3	The leaves and twigs are shaking, the flags are	3.4~5.4

	unfurling, the tall grass is shaking	
4	It can blow dust and paper on the ground, shake the branches, and undulate the tall grass	5.5~7.9
5	Small trees with leaves sway, there are small waves on the water surface inland, and the high grass has obvious undulations	8.0~10.7
6	Big tree branches swayed, electric wires whistled, it was difficult to hold an umbrella, tall grass fell to the ground from time to time	10.8~13.8
7	The whole tree shakes, the big branches bend down, and it is inconvenient to walk against the wind	13.9~17.1
8	Small branches can be broken, and people feel great resistance when walking against the wind	17.2~20.7
9	Thatched huts were destroyed, roof tiles were lifted, and big branches could be broken.	20.8~24.4
10	Trees can be blown down and general buildings damaged	24.5~28.4
11	Large trees can be blown down and general buildings are severely damaged	28.5~32.6
12	Rarely found on land, its destructive power is great	>32.6

9、Contact Us

Pre-sales consultation: +8618073152920

After-sales service: +8615367865107

Postcode: 421000

Email:sales@niubol.com

Website: <http://www.niubol.com>

Address: Room 103, Zone D, Houhu Industrial Park, Yuelu District, Changsha City, Hunan Province,China