Hi-Target

QminiH Series Industry GIS Data Collector Manual

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CHAPTER

1

Chapter 1 Preface

Chapter Instruction

- Instruction
- Relative Information
- Technical Support
- Your Suggestions

1.1 Instruction

Welcome to use Hi-Target QminiH Series Industry GIS Data Collector manual. This manual is adapt to QminiH1/QminiH3/Qnini3P, the manual introduce how to install ,set up and use the Industry GIS Data Collector.

The QminiH series GIS Data Collector is a new generation GPS/GIS data collector. Hi-Target suggests you read this manual carefully for your right using even if you used other Industry GIS Data Collector product. If you do not familiar with Industry GIS Data Collector, please check Hi-Target website: http：//www.zhdgps.com

1.2 Relative Information

You can get the manual from the following: 1, the supplementary CD when purchasing Hi-Target QminiH series equipment. You can get this manual from folder named Manual; 2, Download from Hi-Target website, Go to “Download Section” -> “Products Manual” -> “GIS products”.

1.3 Technical Support

You can find “Technical Support” in Hi-Target website. You can contact our technical center or service department through the phone showed in the “Service Instruction” .You can also send message to “Technical Forum” and “Expert Evaluation” .We will reply to your question in time.

1.4 Your Suggestions

If you have any suggestions or comments on the manual, please login Hi-Target website, “Technical Service” -> “Suggestions & Complaint”,send message to us.Your feedback will improve quality of our manual greatly.

CHAPTER

2

Chapter 2 Summary

Chapter Introduction

- Instruction
- Product Features
- Usage and Notes

2.1 Instruction

QminiH Series Industry GIS Data Collector owns completely navigation and GIS Data collection functions, adopt physical buttons and touch screen operation way, supporting Chinese and English input. Q mini adopts the industrial three-proof design. The specially reinforced structures can withstand the forces when dropped onto the cement floor from the height of 1.5m. The water & dust proof standard IP67 can give you a better support on your complex environmental requirements of the fieldwork. Moreover, the supplied large volume Lithium battery can better satisfy your demands for all-day work.

QminiH adopts the all-in-one integration design. It integrates such functions as GPS, Windows CE/Mobile system, digital camera, microphone, 3G communications (Only for QminiH3 and QminiH3P), blue-tooth communications, large memory, USB/RS22 ports, SD card expansion, etc. QminiH Series Industry GIS Data Collector is compatible with all current embedded GIS software platform. It supplies second software package. And it can satisfy second development equipment of customer and software provider.



Tips: This manual is for QminiH Series Industry GIS Data Collector, product functions will be different according to different model, please refer to technical parameters. Before using, we suggest users firstly to check whether the package box is damaged, and then open careful and check whether inner items matched with the order list of their own. If there are some missing or damaging cases exist for products and accessories, please contact with the local distributor or Hi-Target Foreign Trade Dep. Immediately.

Please carefully read manual before carrying, handling and using!

2.2 Product Features

- Industrial all-in-one integration design , Multi-Function
- Serve as an industrial vehicle navigation GPS of the three-proof standard
- Built-in digital camera, alone with image marking function , the software can automatically realize the matching and annotation of the GPS coordinates and image information
- Built-in Microphone , realizing the on-spot voice collection
- Voice broadcasting function
- Built-in Bluetooth, making wireless data transmission easily
- Integrated industrial-level 3G wireless communications, realizing the data exchange between

the management center and the mobile GPS terminal. The function is only available to Q mini3 and QminiH3P

2.3 Usage and Notes

Although QminiH Industry GIS Data Collector using chemical resistance agents and impact resistance material, but still necessary taking care and maintenance is required for such a precise instrument. Please store it in dry environment. In order to improve the stability and using cycle, please keep using out of the extreme environment, such as humidity, high temperature, low temperature, corrosive liquid or gases and so on.



Warning: The Industry GIS Data Collector must be used and stored in the specified temperature. More details please refer to Chapter 5: Technical Parameters

To ensure the quality of continuous tracking satellites and signals, surveying station's top should be in open, while there should no any obstacle in space above 15 ° altitude angle; in order to reduce all kinds of electrical interference to the GNSS satellite signals. Besides, there should no strong electrical interference around the station within about 200m range, such as the television tower, microwave stations, high voltage transmission line. Also, in order to avoid or reduce the occurrence of multi-path effect, stations should be away from terrain or geographical objects, which will strong effect electrical signal, such as high-rise buildings, large area water, etc.

CHAPTER

3

Chapter 3 QminiH Series Introduction

Chapter Introduction

- Introduction
- Obverse side of QminiH Series Industrial GIS Data Collector
- Inverse side of QminiH Series Industrial GIS Data Collector
- Interface
- Touch Pen Appearance
- Battery
- Data Wire
- Strap

3.1 Introduction

This chapter introduces the appearance, interface, battery, touch pen， data cable and other parts of QminiH series industrial GIS Data Collector

3.2 Obverse of QminiH Series Industrial GIS Data Collector

✧ Figure 3-1 shows the obverse of QminiH Series Industrial GIS Data Collector, Which including touch screen, key board, microphone, protective cover and so on.



Figure 3-1 Obverse side of QminiH Series Industrial GIS Data Collector

✧ Touch Screen: 3.5 inch upright screen, directly touch to operation, support Chinese and English input.
✧ Protective cover: wear prevention, anti-drop, anti-shock, avoid being scratched.
✧ Key board: Direction key , enter key, escape key, power and other function keys.
✧ Microphone: build-in microphone can be used for voice information collection on the spot.

3.3 Reverse of QminiH Series Industrial GIS Data Collector

✧ Figure 3-2, shows the back of QminiH Series Industrial GIS Data Collector, which including camera, battery, strap hole, speaker and so on.



Figure 3-2 Reverse of QminiH Series Industrial GIS Data Collector

- Camera: build-in digital camera can be used for collecting image information , QminiH3 and QminiH3 P are equipped with a flash light, which can take photos in bad night.
- Battery: build-in 7.6V, 2000mAh lithium battery.
- Strap hole: it can prevent falling from connection button.
- Speaker: broadcasting the status of equipment in real-time operation.

Tip: when water happens to go into speaker, it may appear silent or sound hoarse and the sound will be back to normal after drying. The speaker and the inner equipments are completely waterproof, therefore it won't affect to the performance of the instrument after water happens to go into speaker. But please drying the speaker in time.

3.4 Interface

- Figure 3-3 shows the location of interface for QminiH Series Industrial GIS Data Collector; Its functions are Charging, data transferring ,SIM installation and SD cards for the Interface.

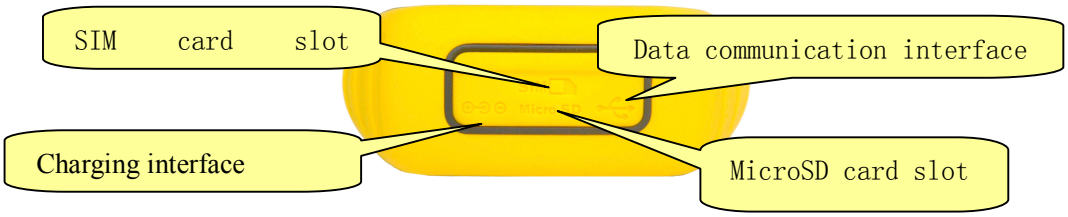


Figure 3-3 interface

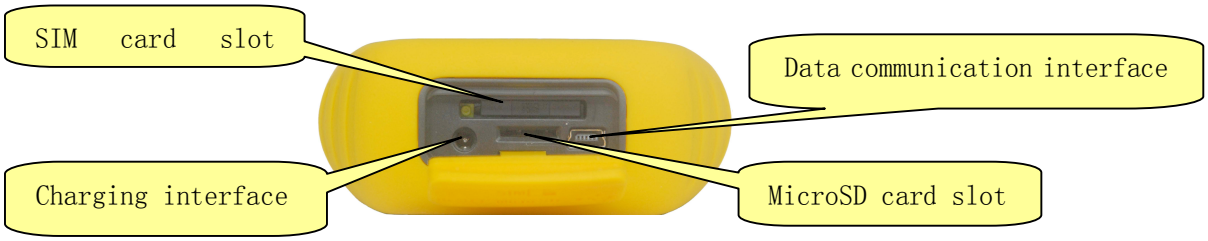


Figure 3-4 interface (inner)

- SIM card slot: install SIM card
- MicroSD card slot: install MicroSD card, maximum support 32GB
- Charging interface: connect with charger for lithium's battery charging.
- USD interface: connect with PC, data transfer.

For more installation steps please refer to the part of"chapter 4, Basic Operation"

Tip: When not in use, please cover the charging and USB interface by rubber cover for the waterproof and dustproof.

3.5 Touch Pen Appearance

Figure 3-5 shows the touch pen of QminiH Series Industrial GIS data collector, which located upper right corner of GIS data collector, and the length can be changeable according to the requirements .(figure 3-6)



Figure 3-5 Touch Pen



Figure 3-6 Touch Pen

3.6 Battery

Figure 3-7, Figure 3-8, Obverse and inverse side of 2000mAh lithium battery.

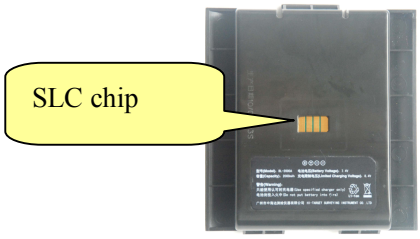


Figure 3-7 Obverse of battery

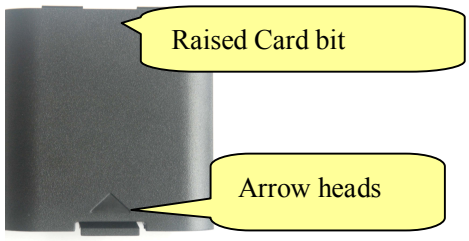


Figure 3-8 inverse of battery

Tip: To protect the environment, please do not throw the useless lithium battery away optionally, please send it to professional battery recycling organization.

3.7 Data Cable

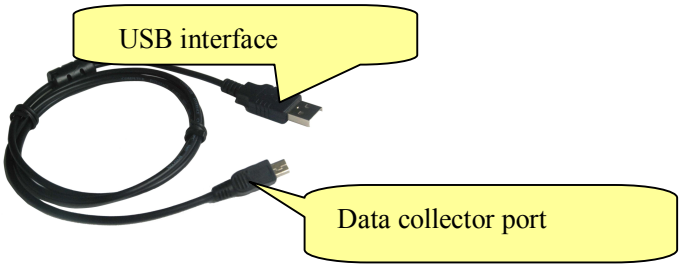


Figure 3-9 data cable

- ✧ Industrial GIS data collection device interface: to connect QminiH series industrial GIS data collector.
- ✧ USD interface: connect with USB port of PC to download data.



Warning: To prevent damage the plug ,store the cable in good place after using without squeezing.

3.8 Strap

Due to smaller stature of Q mini, please put your hand through the strap to prevent falling during the operation work.



Figure 3-10 Strap

CHAPTER

4

Chapter 4 Basic Operation

Chapter Introduction

- Introduction
- Key board
- Touch Pen
- 3G Card
- Micro SD card
- Power Supply System
- Turn on /off QminiH Series Industrial GIS Data Collector
- Data Acquisition
- Application

4.1 Introduction

Hi-Target QminiH series GIS Data Collector's main setting and operation can be achieved by touch screen. Normal operation can be achieved by keyboard. Following briefly introduce the appearance and function of the keyboard.

4.2 Keyboard

Figure 4-1, this is the QminiH series GIS Data Collector's keyboard. It contains the Esc, Ent, F1 and Direction button.

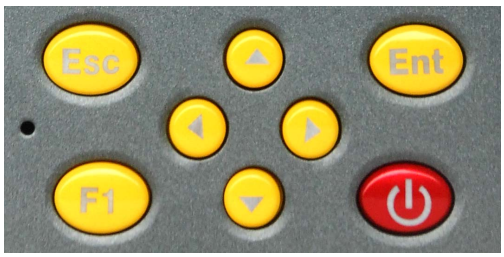


Figure 4-1 Keyboard



Esc: Shortly press after power on, indicate cancel or quit the current operation.



Ent: Enter



F1: Function key. Function is defined by the software. Please refer to the software manual.



Power on/off key: Hold this key one second, power on. Three seconds or above, power off. Switch on/off backlight after power on.



Microphone: Built-in microphone can be used for voice message collecting.



Tips:IF you don't use QminiH series GIS Data Collector in work, please turn off the backlight for saving power.It can protract the work time.

4.3 Touch pen

✧ Place the touch pen

The touch pen is located at the top right corner. When you put it in, please gently press ,insure the cat of pen is outside and parallel to the surface of collector.

✧ take out the touch pen

Gently dig,take out the touch pen



Figure 4-2 put the touch pen in



Figure 4-3 take the touch pen out

Tips: Don't use more power when taking it out or putting it in

4.4 3G card

✧ 3G card is currently used for the QminiH 3 and QminiH 3P

1. Install the 3G card

Gently dig the yellow protective cover of interface, there is an oblong open mouth as card socket.



Figure 4-4 installation diagram

2. Figure 4-4, there is a yellow button in the left of 3G card. Press it, and the 3 G card's cassette will be popup, take the card out, install the 3G card in the cassette. Listen to the sound which plastic spring stuck. It shows that installing already. Figure 4-5.

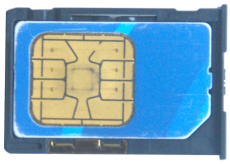


Figure 4-5 installation diagram



Figure 4-6 installation diagram

3 .The metal side of 3G card's will be down, put the 3G in the open mouth, Figure 4-6.

4. Cover the protective cover, finish the installation.

✧ Take out the 3G card

1、Gently dig the cover,Press the yellow button, the 3G card's cassette will be popup, Figure 4-7.

2、Take out the cassette,there is a round,gently push the 3G card, see chart 4-8, take out the 3G card.



Figure 4-7 disassembling diagram



Figure 4-8 disassembling diagram

4.5 MicroSD card

✧ Install the MicroSD card

1.Open the cover at the bottom, there is an oblong open mouth as MicroSD card socket.

Please noted the MicroSD card's metal surface should upward.Plug the MicroSD's card to plughole until the MicroSD is completely in the plughole.The edge of MicroSD is parallel to the card trough.



Figure 4-9 MicroSD card

2. Take out the MicroSD card

Firstly, push the card forward, the card will be popup half automatically.take MicroSD out

Tips: MicroSD card, there is other name. It is TF card. It is Small size of external flash memory expansion card, usually use in Microphone and PDA. User note separating from the ordinary card when purchasing. Normal card's size is larger than MicroSD's. It doesn't fit the QminiH series GIS Data Collector. It supports the maximum 32G memory MicroSD card.

4.6 Power-Supply system

Battery's installation and remove

✧ Installation:

1. Obliquely plug two bulge of battery to the corresponding card trough.
   See chart 4-10.



Figure 4-10 Install battery

2. Press the edge of plastic spring battery down until hearing the sound of plastic spring sticking.It shows installing already.

✧ Remove:

1. See chart 4-11, according to the direction to take out the battery



Figure 4-11 remove battery

2. Listen to the sound of gently dig plastic, take out the battery

✧ QminiH series GIS Data Collector battery and charger's model

Name	Model
2000mah lithium battery	BL-2000A
Lithium Battery charger	CL-2000A

✧ Power supply mode

Power supply	Power supply mode	lithium battery
	Power supply range	Minimum 6.5V、Maximum 8.4 V 6.5V-8.4V

Tips:Lithium battery usage time will decrease as the temperature decrease and charging time increase.A new 2000 mAh lithium battery can work continuously from 8 to 10 hours.According to wireless communication setting or different backlight status, continuous work time is more variational.This is normal.

✧ Charge

Please use the special chargers for charging in certain temperature range, and attain the certain charging time. Specific use method and requirements: Charge should use special charger of QminiH series GIS Data Collector at 10 ℃ ~ 40 ℃ temperature range. Normally there is a certain power when using it first should use the power up then recharge. with first three times should charge for 12 hours,after third time should charge for 4 hours. If the battery often do not use, must charge once a month.



Figure 4-12 charging diagram

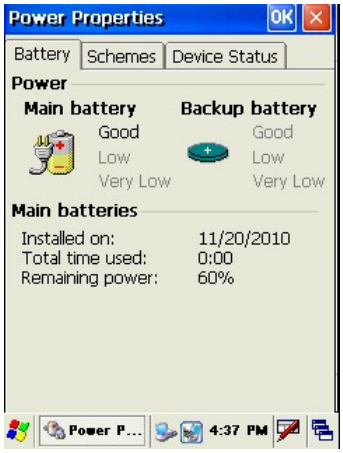


Figure 4-13 Charging diagram

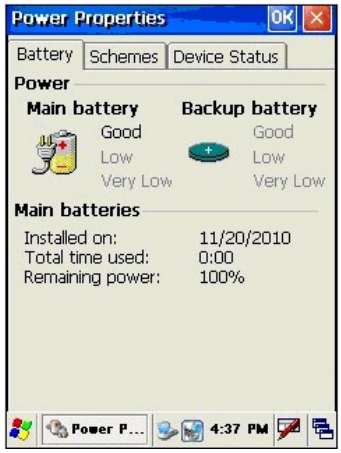


Figure 4-14 finish charging diagram

When charging the battery, click Start ->Setup -> Control Panel-> power, can check the remaining battery real-time, if" remaining power "display 100%, but the" power "part display " charging ", beside the battery icon in the taskbar display lightning symbol (Figure 4-13), that means the battery is not really fully charged (see the blue part), unplug the charger, the remaining power may reduce to 85%. Only when the "power" part display the "main battery" and no lightning symbol in taskbar battery icon is completely fulfilled charged (see the red part in Figure 4-14).

Tips: Due to testing the charging voltage, and charging voltage is higher than the real battery voltage. Now it is charging in the last stage, and it is very important that the battery is full or not. please be sure to complete the process of charging in order to ensure the operating time.

Warning: 1.Pls use the battery and charger supplied from factory, do not put it to the fire or be short circuit with a metal electrode.

2, Please stop to use the battery if you found it is in heated deformation, leakage, smelly or any other abnormal situation, please change the battery.

3、Please stop to use the battery if the using time is obviously short, means the battery is aging, and please change the battery.

4.7 Turn on or turn off QminiH Series industrial GIS data collector

✧ Turn on

1.Press “  ”1 second, industrial GIS data collector will go into BIOS screen, put off the button, BIOS will automatically upload to Windows system, be patient to wait for about 10 seconds, such as figure 4-15.

2. After uploaded, ，Windows system has been running, figure 4-16 is the WinCE system desktop

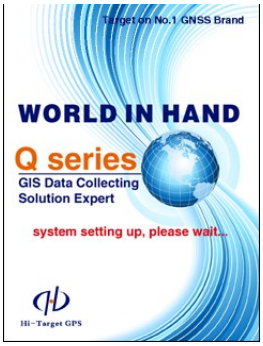


Figure 4-15 WinCE starting picture



Figure 4-16 WinCE system desktop

✧ Turn off

There are 2 ways to turn off QminiH Series industrial GIS data collector:

1. click "Start" menu in bottom left corner of WinCE system desktop, select "suspend " to turn off QminiH series industrial GIS data collector.



Figure 4-17 Turn off QminiH series industrial GIS data collector

2. Long press “  ” button for 3 seconds to turn off industrial GIS data collector.

4.8 Collect data

1. Install Microsoft ActiveSync

Double-click MSASYNC45.exe from the CD(Tools software \ Connect program\ActiveSync\), then follow the instruction to finish installing. After installing, run the Microsoft ActiveSync in “Start menu” -> “Program”. Setup”Allow to connect by USD” in the “Connect setup”.Figure 4-18



Figure 4-18 USB connecting setup

2. Hardware connect

Turn on the QminiH series industrial GIS data collector, go into Windows system, no need to open Application program. Connect QminiH series industrial GIS data collector with small USB port cable, the other USB plug connect to computer USB port. Such as figure 4-19.



Figure 4-19 data transmit connecting

3. Software connect

After conneting cable, Microsoft ActiveSync in computer will popup connecting tips, and then prompt “build up partership or not? ” select”Cancel”. Then Microsoft ActiveSync popup one tip, press”OK”. Now connecting is successful. If it is the first time to connect, the computer will prompt you to install driver, follow the computer instruction to install the driver. The driver is in “Driver program\ industrial GIS data collector Driver” from CD.

4. Download data

Click Microsoft ActiveSync “Browse” button, open Asset Browser in QminiH series industrial GIS data collector, see figure 4-20, go into NandFlash related directory to copy the data to your computer.

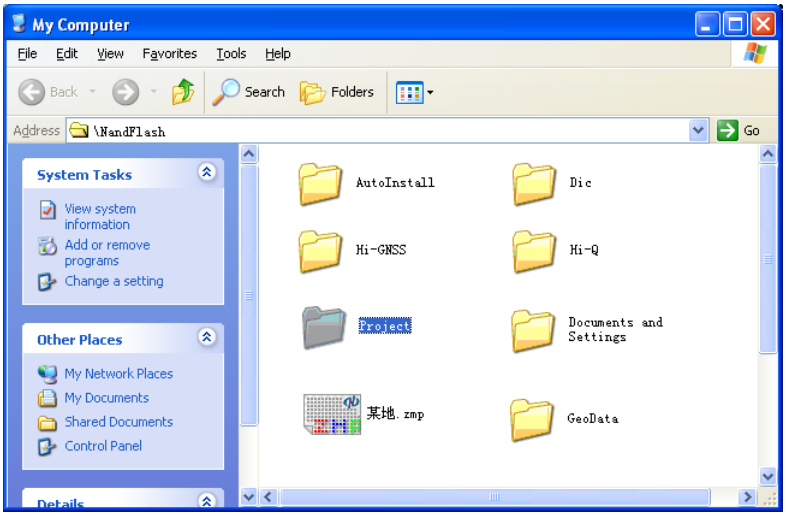


Figure4-20 WinCE Asset Browser Screen

Tips: The collecting data or new installing software must save in NandFlash or MicroSD card, otherwise, industrial GIS data collector data will be lost after Re-start.

4.9 Application Function

QminiH series industrial GIS data collector adopts PPP technology(The technology is adapt to QminiH3P model),built-in navigation function,digital camera, microphone, 3G communication module(This function is adapt to QminiH3 and QminiH3P)etc. , but first you have to install the related software. There ’s Hi-Q software in QminiH series industrial GIS data collector, About how to operate the above application functions with Hi-Q software, please refer to Hi-Q software instruction manual.

CHAPTER

5

Chapter 5 Technical Parameter

Chapter Introduction:

- Introduction
- Technical Data

5.1 Introduction

In this chapter, we introduce you the technical parameters of QminiH Series industrial data collector, Different models have different product functions. When you review this chapter, pls review the corresponding technical parameters of the model you purchased.

5.2 Technical Parameters

Model	Qmini H1	Qmini H3	
System configuration			
Operating System：Windows CE6.0 R3	√	√	
Processor：833MHZ frequency, Cortex-A8core CPU， embedded 2D/3D GPU with accelerator	√	√	
RAM： 256MB DDR	√	√	
Internal 1GB SLC	√	√	
Screen： Professional outdoor 3.5 in. color touch screen	√	√	
GPS Features			
20 Channel GPS	√	√	
16 Channel L1+ Carrier Phase GPS			
Support SBAS（WAAS，EGNOS，MSAS）	√	√	
Built-in high sensitivity anti-interference GPS antenna	√	√	
Default update rate：1Hz	√	√	
Maximum update rate：4Hz			
TTFF：30 seconds（typical）	√	√	
Positioning accuracy			
Single Point Positioning：5 meters	√	√	
SBAS：1-3 meters	√	√	
Communication Interface			
Built-in Bluetooth、USB interface	√	√	
WIFI	√	√	
Built-in 3G SIM card		√	
Built-in sealed Micro SD card slot, maximum support up to 32GB	√	√	
Power Supply			
Built-in 7.4V Lithium Battery, 2000mAh	√	√	
Over 10 hours' continuous work, Online charging	√	√	
Application Function			
Built-in 3G communication module, supporting remote wireless communication		√	
Built-in 3 megapixels camera with video annotation capabilities	√	√	
Built-in microphone with voice annotation capabilities	√	√	
Support vehicle navigation software installation，GPS bracket/Car charger/Cradle（optional）	√	√	
Video playback Support RMVB/ AVI/ WMV/ MP4/ 3GP/ FLV format	√	√	

Physical Properties			
Size: 14cm × 8cm × 3.5cm	√	√	
Weight: 360g (with battery)	√	√	
Operating Temperature: -20℃ ～+70℃ Storage Temperature: -30℃ ～+80℃	√	√	
Dustproof and Waterproof ： IP65	√	√	
Shock: Anti 1.5 m free fall	√	√	