

# Instruction manual

# Climbing Test

Version 1.0 - Oct. Y24



MOUSE



Pain & Inflammation



Products SKU: 36103



ugo basile®

TRANSFORMING IDEAS  
INTO INSTRUMENTS

# *SAFETY CONSIDERATIONS*

Although this instrument has been designed with international safety standard, this manual contains information, cautions and warnings which must be followed to ensure safe operation and to retain the instrument in safe conditions.

Service and adjustments should be carried out by qualified personnel, authorized by Ugo Basile organization.

Any adjustment, maintenance and repair of the powered instrument should be avoided.  
If inevitable, it should be carried out by a skilled person who is aware of the hazard involved.

Capacitors inside the instrument may still be charged even if the instrument has been disconnected from its source of supply.



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## **CE CONFORMITY STATEMENT**

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***We hereby declare that***

Instrument. **Climbing test for mouse**  
SKU number **36103**

***is manufactured in compliance with the following European Union Directives  
and relevant harmonized standards***

- *2006/42/CE on machinery*
- *2014/35/UE relating to electrical equipment designed for use within certain voltage limits*
- *2014/30/UE relating to electromagnetic compatibility*
- *2011/65/UE and 2015/863/UE on the restriction of the use of certain hazardous substances in electrical and electronic equipment*

Account Manager

Mauro Uboldi

Nome / Name

19<sup>th</sup> September 2024

Date

Firma / Signature

# Product Features and General Information

Ugo Basile Climbing Test is the first available device that measures vertical activity in mice in a completely automated manner. Capacitive and force sensors are used to measure climbing in a cylinder with an internal grid and output all necessary parameters automatically:

- Time spent climbing (in the cylinder walls or the ceiling over the total time)
- Activity amount
- Number of climbing episodes
- Latency to first climbing episodes



# Background

Because of the nature of rodents, which show abundant vertical activity, climbing has been a parameter of interest but much less investigated than activity in the horizontal plane, for lack of technology and standardized devices to do it.

In fact, we have ample literature on climbing behaviours measured manually. This is well described in the review by Neto et al. (2016), showing typical protocols and use cases. In more specific papers we have seen the most diverse experiments using climbing as a main endpoint, e.g.:

- Stress-related studies (Cabib et al. 1984)
- Pain-depressed behaviours and analgesic effects (Santos et al. 2023)
- Effect in home cage climbing for muscle strength (Ueno et al. 2022)
- Male-female differences to better understand climbing role (Borbelyova et al. 2019)
- Environment exploration in a 3D environment (Wexler et al. 2018)

Much more is to be explored about this partially neglected behaviour now that the right technology is available in the field of pain, motor function, anxiety, depressions, etc.

# What's in the Box

Congratulations for purchasing the Ugo Basile Climbing Test

**SKU: 36103 Climbing Test package content:**

- 1 Electronic unit.
- 1 Power cord according to your country outlet.
- 1 Set of spares fuse.
- 1 Transparent sensing cylinder.
- 2 Climbing Grid cylinder: 1 white and 1 black.
- 1 Calibration weight of 100 gr.
- 1 USB key with software, this instruction manual as a pdf, the quality control certificate with the calibration data and the Ugo basile catalogue as well as a pdf file.

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# 1 Principle of Operation

The climbing device senses vertical animal movements from the cylinder wall and from the ceiling thanks to capacitive sensors.

The data from the cylinder and from the ceiling are discriminated.

Thanks to a force sensor underneath the device floor, the climbing detection starts automatically when the animal climbs with all the four paws and then the time spent climbing, the activity amount, the animal number of climbing episodes are automatically detected and stored in the electronic unit to be then exported as .csv files through the USB or the Ethernet connection.

## 1.1 Notes on the Instruction Manual

This instruction manual included in the provided USB memory as a pdf file is necessary for a correct installation of the instrument.

Please save this manual, keep it ready to be consulted by the qualified personnel using the instrument.

Our manuals are available as free download on our web site, [www.ugobasile.com](http://www.ugobasile.com). For any additional information and/or assistance, you are welcome to contact our service department, first of all by specifying the serial number of your instrument at [service@ugobasile.com](mailto:service@ugobasile.com).

## 1.2 Safety Instruction

The following guide lines must be followed to ensure safe operation:

DO NOT attempt to open or perform any service work before having contacted Ugo Basile support team.

Use original accessories and spare parts only. Immediately disconnect and replace damaged main cord. Do not operate in hazardous environment or outside prescribed environmental limitation. Do not spray any liquid on the connectors, or other parts.

Ugo Basile cannot in any way and form be held responsible for damage caused to things and people and warranty will be void, due to:

- Incorrect electrical supply
- Incorrect installation procedure
- Incorrect or improper use or, in any case, not in accordance with the purpose for which the instrument has been designed and the warnings stated in the instruction manual supplied with the instrument.
- Replacement of original component, accessories or parts with others not approved by the manufacturer
- Servicing carried out by unauthorized personnel

## 1.3 Intended Use

The device is intended for investigation use on laboratory animal only.

**DO NOT USE THIS DEVICE ON HUMANS.**

## 1.4 Additional Safety Consideration

Immediately disconnect and replace damaged main cord

Do not operate in hazardous environment or outside prescribed environmental limitation

Do not spray any liquid on the connectors, or other parts

***Ugo Basile cannot in any way and form be held responsible for damage caused to things and people and warranty will be void, due to:***

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- Servicing carried out by unauthorized personnel.

## 2 Instrument Description

The instrument is based on a climbing cylinder sitting on the electronic unit with a touch screen display and with a force sensing floor to detect animal four paw climbing.

The grid cylinder diameter is 11 cm, with 28 cm height and this device is hence designed for mice. Also the grid spacing and thickness is designed for mice.

The maximum experiment duration is 3600 seconds.

### 2.1 Touch-screen command/display

Climbing Test incorporates a 4.3" touch-screen display, for all settings and monitoring, via an intuitive panel. This panel can be used both with or without wearing nitrile gloves.

The the Climbing Test touch screen uses resistive technology and can be used with fingers, gloves or (recommended) a display pencil.

Resistive touch-screens (differently from commercial capacitive screens) are a better choice for laboratory applications because of:

- High resistance to dust and water
- Better use with gloved hand or stylus

### 2.2 Connection front panel

The connection module on the front panel (Figure below) encompasses the following connectors, from left to right:

1. USB port: enables data export to a PC (via a USB pen drive), and allows firmware upgrade.  
Moreover, experiment created with the X-Pad software (see specific manual for details) can be uploaded into the device by using a simple USB pen drive. The lower USB connector is covered and has not to be used.  
**DO NOT REMOVE THE USB CONNECTOR COVER**
2. TTL I/O: 15pins D-SUB connector, provides TTL input and output for start/stop command and monitor the start with external data acquisition device..
3. COM: Reserved for maintenance and service purpose, not to be used.
4. Ethernet connector (RJ45):for LAN connection, provides communication with a web browser to load experiment from the Ugo Basile X-Pad software and for experimental data retrieving, with out the need of a USB pen use.



*Connection front panel*

## 3 Installation

### 3.1 Unpacking & preliminary check

Check the content of the shipment for completeness and visually inspect the instrument as soon as you take it out from the packaging.

If the box looks damaged, inform the courier and provide a conditional signature (not a full signature).

Once unpacking, if the instrument is damaged, notify our company, by writing an email to [support@ugobasile.com](mailto:support@ugobasile.com)

If after a test, the instrument fails to meet the expected behaviour and performance, please contact our after sales service department at [sales@ugobasile.com](mailto:sales@ugobasile.com).

**Protect the environment:** Dispose of packaging properly, according to existing and applicable waste management rules and regulations.

Open the packaging box and take the instrument out the box; make sure to remove all the packaging material from the apparatus before placing it in the experiment Lab room.

Remove the yellow label from the apparatus display and register Your device on [register.ugobasile.com](http://register.ugobasile.com)

Product registration is essential, while You will receive one additional year of warranty period registering it. No registered devices will have one warranty period year less.

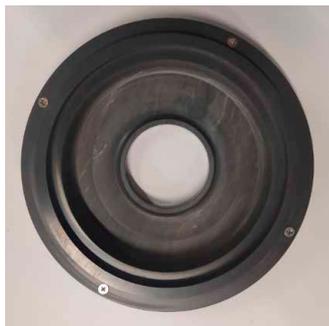
**WE STRONGLY ADVISE YOU TO IMMEDIATELY REGISTER YOUR DEVICE.**

## 3.2 Assembling the instrument

Place the device on a stable and flat surface.

To assemble the device follow these step:

1. Insert the PVC urine and feces collector into the designated slot in the electronic unit and insert the aluminium scale plate into (no tools required)



*urine and feces collector*



*scale plate*

The assembled electronic unit should look like this



2. Mount the sensing cylinder on top of the electronic unit, then insert the climbing cylinder into the cylinder



3. Insert the connector of the sensing cylinder in the back of the electronic unit paying attention of the insertion pin (do not force it).



When the sensing cylinder is not connect as show, a yellow alert triagle will appear on the touch screen indicating the missing connection.



## 3.3 Power Connections

The Power Module (see figure below ) is positioned on the right side of the rear panel and incorporates, from left to right (rear view), the fuse holder, the ON/OFF switch, the inlet connection for the power cord.



*Power module*

The fuse compartment holds two fuses. Use (T2.0A) timed fuses for operation at both 115 or 230V, for fuse replacement.

**Make sure your power cord is provided with a reliable ground connection.**

Connect the mains cord between the power socket of the Climbing test and Your outlet.

You can now switch the device ON

## 3.4 LAN Connection

You may want to communicate from a standard PC to the Climbing Test via **Local Area Network**.

This connection makes possible to load experiment data created with the Ugo Basile X-Pad software (Windows app.) and the experimental data retrieving from the device to the PC without the need of use the USB pen.

You do have two ways to cable the device to a PC:

1. Connect the device directly to a PC Ethernet port by an Ethernet standard cable.
2. Connect the device to a LAN Switch/(wall LAN port) as part of a private or a Lab/Company network.

Despite the cabling You choose You need to consider:

LAN connection is based on TCP/IP protocol that needs a unique IP number to be assigned to the device as well as the appropriate Subnet mask number.

In case You decide to cable the device directly to a PC You will create a small LAN outside the company network and thus You will not need to have the IP number from Your IT administrator, unless You choose to use DHCP and let the server

assign an IP address to the device.

In case You want to cable the device into the company LAN You will need to ask Your IT administrator an IP number and a subnet mask to avoid conflict on the LAN.

Note that Default gateway number and DNS number are not necessary for this purpose.

### Scenario 1 - device directly connected to a PC:

- You need to have an Ethernet cable (UTP Cat 5 minimum) of the necessary length to go from the device to the PC (not more than 100 mt.)  
Connect one end (Rj45 connector) into the Ethernet RotaRod port labelled "Eth" and the other end of the cable to Your PC Ethernet port.  
Be aware the not all PCs can be connected by a standard Ethernet cable, some old PCs needs a special Ethernet cable called "Ethernet cross cable", if You find miss connection using a standard cable You may need to try with a cross one.
- Switch the device on and from the main menu press the Setting button and then Network, to enter into the Network configuration page.



- Set the IP Assignment to Manual and assign an IP address pressing on the number at the of the text "IP Address", delete the inserted number and digit 10.0.0.1, then press OK (this number will be the ID to reach the Climbing Test)
- Now press right the text "Subnet mask", delete the inserted number and digit 255.255.0.0, then press OK.
- Gateway, Primary DNS and Secondary DNS does not need to be configured.
- Exit the Network page pressing the rounded arrow on top of the screen.
- On Your PC (depending on the operating system You are running, Mac OSX or Windows or Linux) go to Your Ethernet card settings (the one You cable to the RotaRod)
- You may have multiple Ethernet card on Your PC, be sure to choose the right one and remember to switch off the WiFi to avoid confusion.
- Configure the appropriate LAN card with the following data in manual mode:

Back to content

- IP address: 10.0.0.10
- Subnet Mask: 255.255.0.0
- Default Gateway, Primary DNS (DNS1) and Secondary DNS (DNS2) does not need to be configured.
- Close the LAN card set-up.
- Open a Web browser on Your PC (Google Chrome is advisable to use but You may use as well Safari, Edge or Firefox or others).
- On the browser address field digit the Climbing Test IP address: http://10.0.0.1
- The Login page will appear.
- Enter the default Login password (You may want to change it later) which is: **UgoBasile**.
- You are now logged into the device.

### Scenario 2 - device connected to an Ethernet Switch (Lab LAN)

- Use a standard Ethernet cable (UTP Cat 5 minimum) to connect the device to the Lab LAN
- Go to the Network page into the device and set the IP Assignment as Automatic (DHCP) and go back to the previous page using the top screen arrow button.
- Go to the main page of the device and press the top screen arrow to open the info page; You will see the assigned IP address of the device, take note of this number (E.G.: 192.168.1.26).
- Be sure Your PCs is connected at the same LAN (via cable or via WiFi and configured using a DHCP).
- Open a web browser and digit http:// followed by the Climbing Test IP number: E.G. http://192.168.1.26
- The Login page will appear.
- Enter the default Login password (You may want to change it later) which is: **UgoBasile**.
- You are now logged into the device

# 4 Menus, Icons, Buttons and Pages

## 4.1 Climbing Test Main Menu

To start using the Ugo Basile Climbing Test you first need to power the unit up; use the rear ON/OFF switch to power the unit ON and after the splash screen with the device name You will receive the main software menu:



Via the main menu you will access all device settings and functions:

- Experiment, to input animal and experiment information
- Setup, to adjust working parameters
- Start experiment, to start and follow the experiment in real time
- Results, to view acquired data
- USB storage, to export and import
- Utilities, for database and others

Most of the icons in this page are buttons that can be used for setting up the device, here is an explanation of the Main page buttons and icons from the upper left to the right:

### CLIMBING TEST

This is the instrument name, this element is not interactive, in other pages instead of this text in this position, you will find name of the page you are currently in.

### Tuesday, 17 September 2042 09:25

Here is where the instrument shows the current date and time



This icon take You to the about page where You have several device information that can be useful for technical support.

Use the  button to return to the Main page (this is the back button on all the device pages).

In the header part of the display there are several icons advising you about the device state and connections, that appear only in certain occasions or while external devices are connected:



This icon appears only in the main page and will take you to the About page where you can find technical informations regarding your device.



This icon is present in all pages except the main page and will take you to the previous page.



This icon is shown when a USB key is connected to the front panel USB connector and it contains a valid firmware update; it is only used for firmware update.



Shown when a USB device is connected to the USB front panel connector.



This icon indicates a possible internal memory card problem.

## 4.2 Experiment Menu



Tap on the “Experiment “ Icon to access the Experiment Menu.

This button takes You to the page where You can set experiment parameters using the touch screen display, such as: Treatment, Protocol, Stage, Trial and animal ID for all the device lanes.



The screenshot shows the 'EXPERIMENT' menu interface. At the top, there is a header with the title 'EXPERIMENT' in blue, the date and time 'Wednesday, 02 October 2024 16:01', a back arrow icon, and a USB device icon. Below the header, there are several input fields for setting parameters: 'Treatment', 'Protocol', 'Stage', 'Trial', and 'Animal ID', each with a corresponding empty text box. At the bottom, there are two more fields: 'Gender' with an empty text box and 'Weight [g]' with a text box containing the value '0'.

From this screen, information can be added that will then show in the results. If nothing is input the relative information will be blank and animal number will be increasing each time an experiment is starting. Alternatively, these information can be added from the provided Windows app and then uploaded into the control unit via USB through the "USB storage" or the via the LAN connection.

Once You have completed the Experiment planning and filled out all the necessary Experiment informations on the X-Pad App, You can transfer this information to the device in two ways; using the provided USB storage exporting the Experiment file and load it into the device, or directly transfer the Experiment information via LAN.

## 4.3 Setup Menu



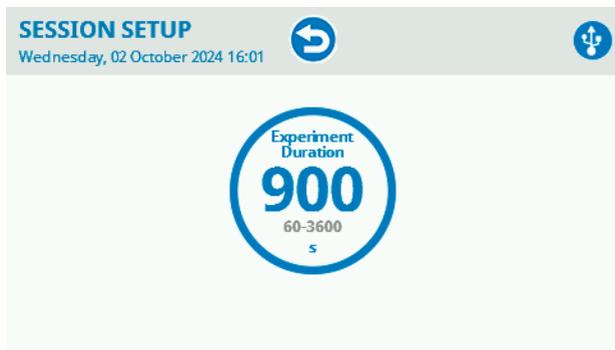
Tap on "SETUP" icon to enter the SetUp Menu, where you will be able to Set:

- Session
- Device
- Network
- Date & Time



## Session Setup Menu

In the "SESSION SETUP" menu you can adjust the duration of your experiment in seconds; the maximum allowed duration is 3600 seconds, the minimum is 60.



## Device settings Menu

The device settings menu has several functions to adjust the device sensitivity, the weight threshold and calibration.



## Parameters Menu

The parameters menu controls the cage ID and the weight averaging, i.e. the weight sampling rate to smooth the measurements.

Cage ID is particularly useful when multiple cages are used to recognize them into the result data.



## Weight threshold Menu



The weight threshold is an important parameter which will affect when climbing starts.

It is conceived so that the system will start measuring when all four paws are attached to grid and is necessary to compensate for some weight still on the floor (e.g. the tail), while the animal is already climbing (i.e. all the 4 paws are on the grid).

Generally a value corresponding to 5-10% of the animal weight is adequate.

## Calibration Menu

The calibration menu is necessary to calibrate the force sensor underneath the floor and must be performed for the system to correctly operate.

Put the weights on the floor as prompted on the screen until you get to the message below:



## Ring Sensitivity Menu



The sensitivities affects the detection of the animal and also the distance from the sensor at which the animal will be considered as detected by one sensor ring.

This parameter adjusts the baseline sensitivity for detecting the animal's position and affects all heights.

The factory setting is set to a value of 5. If the value is adjusted to 6 or higher, the sensitivity of all rings is reduced. If the value is set to 4 or lower, the sensitivity of all rings increases. (The higher the value is, the lower the sensitivity is)

As a suggestion: (but better You make some tests)

For big mice (from 35 to 50 gr) set this value at 7

For medium size mice (from 20 to 35) set this value at 6

For small mice (from 10 a 20 gr) set this value at 5

## Ring Thresholds Menu



This menu allows to set the threshold detection of each single ring and of the roof. The blue arrow indicates the selected ring, and you can observe the response in the graph by analysing the behaviour of the dark gray bar. If you wish to set the same value for all rings, you can adjust the sensitivity on ring 1 and press 'Copy value to all rings.'

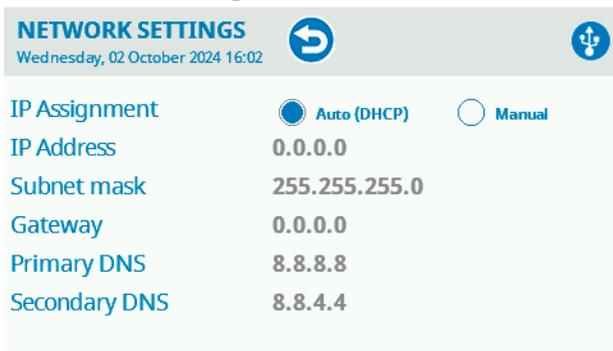
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You generally do not need to change this values which are described into the quality control certificate released by the instrument.



It is recommended to set a higher value for threshold detection compared to the value set for the other rings.

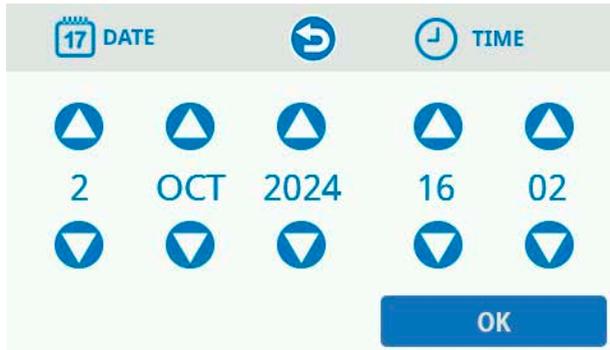
## Network Settings Menu



The network menu configures communication when the Ethernet connection will be used to transfer data instead of the USB stick.

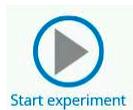
For detailed description on the network operations please see "3.4 LAN Connection" at page 14

## Date-time Menu

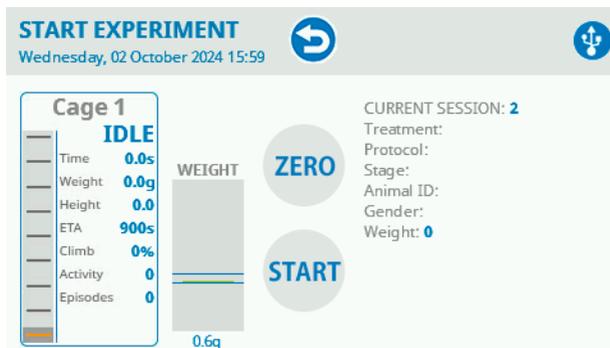


From this Menu you can set the date and time information.

## 4.4 Start Experiment Menu



Use this button to go to the “Start Experiment” page, to start running the experiment.



Tap “ZERO” button to perform the calibration of the Climbing Test balance before starting a new experiment.

Tap “START” button to start your experiment.

See “Performing experiment paragraph “5.2 Performing the experiments” at page 30 for more information on the experiment procedure.

## 4.5 Result Menu



Tap this icon to go to the “Result” page, where you access the results data of your experiment.

**RESULTS**  

Wednesday, 02 October 2024 16:02

RECORD 1/1

Session: 1	Time: 09/27/2024 16:50:23
Cage: 1	
Event: End	Reason: MANUAL STOP
Treatment:	
ID:	
Protocol:	
Stage:	
Trial:	
Duration: 9.2s	
Climbing episodes: 1	Climbing time: 2.5s (27%)
Activity: 139mm	Time On Roof: 0.0s
Avg Height: 5.6mm	Max Height: 69.5mm



## 4.6 USB Storage Menu



USB storage

Tap this icon to access the “USB Storage Menu”

**USB STORAGE MENU**  

Wednesday, 02 October 2024 16:02

 **Export results**

 **Load experiment**

 **Unload experiment**

**Export result** to a USB key (in .csv format to be used with data analyses applications)

**Load experiment** by a USB key which contains data created with the X-Pad Ugo Basile Windows application (note that this is not a custom ramp loading

procedure, is used to load into the device data such as the list of animals, Treatment, Protocol, Stage, Trial and animal ID text).

**Unload Experiment**, useful to clear up previous loaded experiment data and allows You to fill data manually.

## 4.7 Utilities Menu



Tap this icon to access the "Utilities Menu"



The **Update** button permits to update the device firmware and the system software with an update file stored into the inserted USB storage; please ask our technical support at [service@ugobasile.com](mailto:service@ugobasile.com) the correct update file indicating Your device serial number and actual firmware version that can be seen on the About screen. You can reach the About page pressing the Ugo Basile logo at the main page top centre.

**Factory reset** button will execute an Erase DB + resets the device password for the LAN connection

Use this button to completely reset Your device; device LAN password will be reset at the default one (UgoBasile) and all the internal memory data (including experimental data) will be permanently deleted.

**Erase DB:** this button will erase all the internal database which include all the experimental data.

**WARNING: THIS WILL DELETE ALL YOUR EXPERIMENT DATA MAKE A BACKUP BEFORE EXECUTION**

Use this button to clear all the device memory. Perform this operation only after correctly exporting and saving the experiment results. Keeping the device's internal memory clean is beneficial both for easier data analysis and because the internal memory is not unlimited and when full needs to be cleared.

# 5 Operation

## 5.1 Filling experiment data

### From the device touch panel

From the main page press the button “Experiment” and in the next page You can digit, by the virtual keyboard the experiment data, which are the following: (remember that this data will appear on the result data file, use text thinking on a reading the result.). To edit the data tap directly in the form you want to fill.

The screenshot shows a form titled "EXPERIMENT" with a timestamp "Wednesday, 02 October 2024 16:01". The form contains the following fields:

- Treatment
- Protocol
- Stage
- Trial
- Animal ID
- Gender
- Weight [g] 0

- **Treatment:** The text inserted in the field “treatment” allows to place animals into groups, which differ in phenotype, drug concentration, or any other parameter or condition (age, sex, weight) you want to compare.
- **Protocol:** The “protocol” field defines the name of how the experiment will be performed.
- **Stage:** The “stage” field is used to define the sequence of tests you will perform in a experiment (e.g. week number, training, retention, extinction, habituation, etc.)
- **Trial:** The “trial” field indicates how many times a test will be repeated within a stage (e.g., it would be 7 in case of a weekly stage with daily trials; Monday, Tuesday, Wednesday, etc.)
- **Animal ID:** The “animal ID” field is used in case you do NOT want to refer to animals by a simple sequential number, like animal1, animal2, etc. Instead, the “animal ID” would be a code or a name you use to uniquely identify the animal to be tested.
- **Gender:** The “animal gender” refers to the gender of the animal used in the experiment.
- **Weight:** The “animal weight” field is to insert the weight of the animal used in the experiment.

Please note that using this inputting method you are not allowed to use small letter and a maximum of characters of 20 per field.

## **From the X-Pad Windows App**

Please refer to the X-Pad3 Windows App instruction manual to understand how to install and use the software application.

Be informed that:

Using this Application you will not have the limitation you have using the device touch screen as inputting system and it will be easier to write the information into the device, even more with the X-Pad3 App you will find automatic procedure to populate all the experiment data.

In general term the procedure is to create a file with the X-Pad application on a computer, write the data file into the provided USB key (using the X-Pad3 "Make File for device") , connect the USB key to the device and load the protocol into.

In addition You can transfer the data-file via web browser to the device if it is LAN connected

### **How to load a protocol made in the X-Pad application:**

Please refer to the X-Pad instruction manual to understand how to do it.

Once you have created the protocol and register the protocol file (.db) into the USB key, detach the USB key from the PC and connect it into the USB device connector.

(You need to prior detach the USB keypad to free the USB connector).

From the main page of the device display press the button "USB storage" and then press the button "Load Experiment", select the Protocol name you want to load from the list and press the "OK" button.

You will see the windows saying "Experiment has been loaded successfully, then press "OK" to close the windows.

Go back to the Main page and press the button "Experiment" you will notice that the Experiment data are loaded and you can browse with the upper left arrows the different lanes.

When an X-Pad protocol has been loaded You are NOT allowed to edit field any more.

Filling all the experiment data is not mandatory, if You leave them empty they will be empty in the result data too.

## 5.2 Performing the experiments

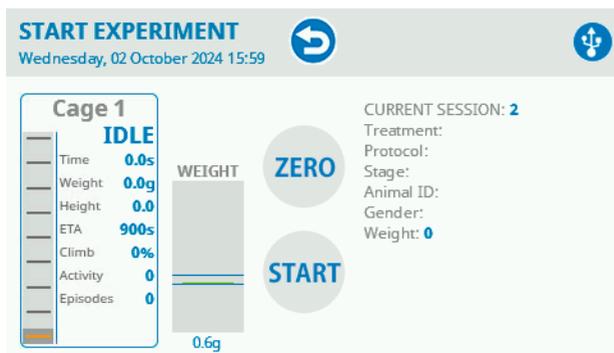
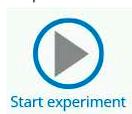
The device does not require any initial set-up, apart from cleaning, determining the initial climbing weight and deciding if preliminary habituation is needed or not to avoid stress, which depends on the experiment and animal type.

Before each experiment, ensure that the floor is clean. The system has been designed so that removal of the two cylinder, of the scale plate and of the urine and feces collector is easy to facilitate cleaning.

Connect to the mains and turn on the device from the switch in the back.

At this point, once you have correctly set you Climbing Test for you experiment, you can remove the internal grid cylinder, position the animal and reposition the grid cylinder paying attention that it does not sit over the animal tail.

To start the experiment tap the “Start experiment” icon, enter the “Start experiment” menu and tap “START”



Tap “ZERO” button to perform the calibration of the Climbing Test balance before starting a new experiment

Once the experiment begins a “STOP” icon will appear on the touch screen. Tap the icon to stop you experiment.

ATTENTION: If you start an experiment and the sensing cylinder is not connect the following message will appear on the touch screen



## 5.3 View and export result experiment data

At the end of an experiment you can review the result data going from the Main Menu and access, tapping on the **"Result"** icon.

You will access the "Result Menu where you can browse the collected data and using the left up and down arrow browse all session.

To export the experiment data you need to:

Got to the main menu

Press **"USB Storage"**

Insert a proper USB key into the USB connector on the front panel (Upper slot only)

Press **"Export Result"**

Experiment result data are saved into the USB key in .csv format, (Comma Separated Value) file, which can be imported/edited by several spread sheet applications and data analysis software like Microsoft Excel®.

File name is having the following syntax:

CT\_Results\_YYYY-MM-DD\_HHMMSS.csv

Where CT means Climbing YYYY-MM-DD represent the Year-Months-Day and HH-MM-SS the hours and minutes and seconds when the result data has been saved.

In addition, if Your Climbing Test is LAN connected You can export experiment data directly to the PC via web browser.

Log in into the device via the web browser, by the menu go to the Result page and press the Download CSV file.

Here is the list of the exported data:

- **Session** (A progressive number of the experiment session performed)
- **Date** (The date and the time the event occurred)

- **Cage** (The Cage ID assigned in the “Parameters” menu is displayed)
- **EventCode** (identify the type of event)
- **Treatment** (The text inserted manually or loaded via X-PAD3 into the Treatment field in the Experiment page)
- **Protocol** (The text inserted manually or loaded via X-PAD3 into the Treatment field in the Experiment page)
- **Stage** (The text inserted manually or loaded via X-PAD3 into the Treatment field in the Experiment page)
- **Trial** (The text inserted manually or loaded via X-PAD3 into the Treatment field in the Experiment page)
- **ID** (The text inserted manually or loaded via X-PAD3 into the Treatment field in the Experiment page)
- **Gender** (The gender of the animal used in the experiment)
- **Weight** (The weight of the animal used in the experiment)
- **Latency** (Is the time in seconds between the Experiment start and the time the event occurred)
- **Duration** (Is the time in seconds of the che climbing events and of the total duration of the experiments)
- **MaxHeight** (Is the maximum height in mm reached by the animal during the climbing events or throughout the entire experimental session)
- **AvgHeight**( Is the average height in mm reached by the animal during the climbing events or throughout the entire experimental session)
- **Activity** (It is the total distance expressed in mm travelled by the animal during the climbing events or throughout the entire experimental session)
- **TimeOnRoof** (Is the time in seconds spent by the animal on the roof during the climbing events or throughout the entire experimental session)
- **Climbing Time** (It is the total time spent by the animal in climbing activity throughout the entire experimental session)
- **Reason** (Indicates the type of event)
- **Episodes** (Indicates the number of climbing episodes during the experimental session)

## 5.4 LAN connection

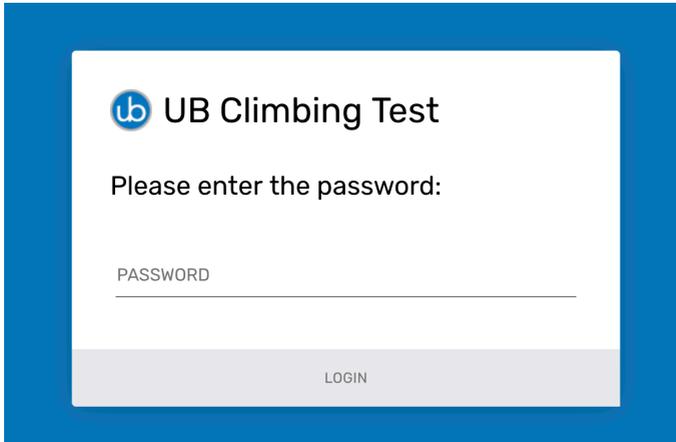
If Your device is LAN connected You can load experiment parameters file generated by the Ugo Basile X-Pad app into the device and retrieve experimental data result without the need to use the USB pen as a data bridge.

LAN Connection is done by a standard web browser, while we do prefer to use Google Chrome, You can try to use Your preferred web browser.

To start a connection session make sure the LAN connection installation has been properly done and then open Your web browser.

LAN connection to the device, for data security, is password protected; the factory

password is *UgoBasile*, and You may want to change it.



### To change the LAN connection password:

1. Log in to your device with the factory password (*UgoBasile*)
2. Go to the main menu (the 3 lines at the top left and select the command "Change Password")
3. You will be asked to input the current password and input two times the new password.

Password need to be 8 or 15 characters, should contain at least a lower case letter, an upper-case letter, a number and a symbol.

It is advisable to secure store the password set for future use, while if You loose it You do not have any chance to retrieve Your experiment data via LAN. (You can still download data using the USB key).

If You lost the password You can reset the password from the device touch panel, but be aware that the password reset will delete all the stored experiment result data.

### To reset the password (and the stored result data):

On the device touch screen panel from the main page press the Utility button and then the Device Setup button, then press Factory reset and You will be asked for a reset confirmation.

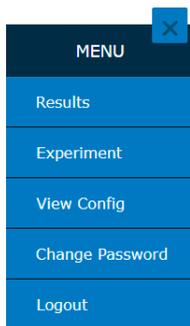
Result data were deleted and the password has been set as *UgoBasile*.

Back to content

LAN Connection menu:

# **UGO Basile Climbing Test**

Clicking on the three white line at the top left on the browser windows You can open the main connection menu:



On the **“Result page”** You will find the experiment data result and the possibility to download the .csv file with the data on Your computer by pressing the Download CSV File button.

## **UGO Basile Climbing Test**

Firmware version: **V.1.0.6.0**

Device clock: **Thursday, 03 October 2024 15:29**

Number of records in DB: **10**

[Download CSV File](#)

### **Records**

<b>Session</b>	<b>Date</b>	<b>Cage</b>	<b>Event Code</b>	<b>Treatment</b>	<b>Protocol</b>	<b>Stage</b>	<b>Trial</b>	<b>ID</b>	<b>Gender</b>

On the **“Experiment page”** you will be able to load into the device:

Experiment data (.db) created by the Ugo Basile Windows app X-Pad which is included in Your Climbing Test device.

Create the Experiment file in X-Pad and safe it on Your PC.

By the web browser connect to the Climbing Test as described and select from the menu the function Experiment/Ramp:

# UGO Basile Climbing Test

## X-Pad Experiment animal list

Scegli file Nessun file selezionato

Send to device

---

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Use the button Select File (is in Italian in the pics while this Windows is an Italian edition) to select on Your drive the Experiment or the Ramp file and then press the relative button Send to device.

You will receive a confirmation message.

The Experiment data will be loaded into the Climbing test.

The View Configuration page is intended to show the system data and can be required by our support team to have Your device information for service purpose.

The Logout command is to disconnect Your browser from the Climbing Test and ending the working session.

## 6 Connections

### 6.1 I/O port connection

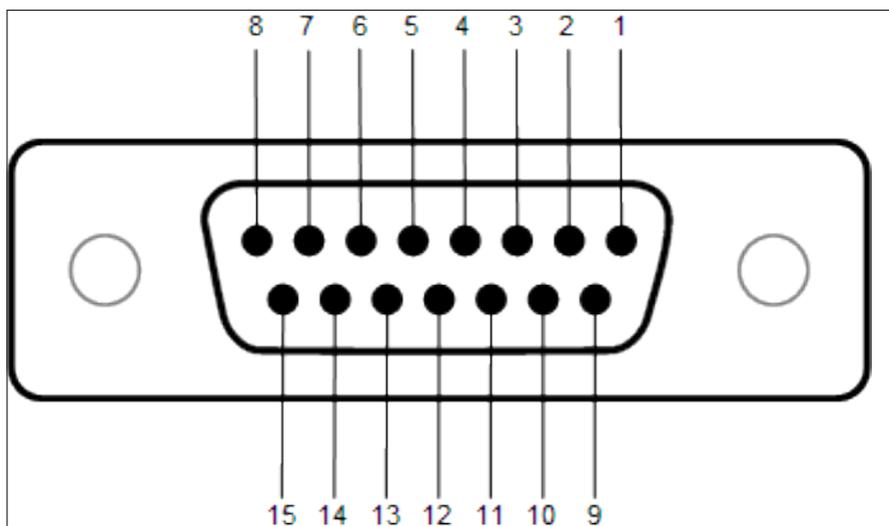
The Climbing Test is provided with a D-sub (DA-15 female) TTL I/O port.

This port could be used to synchronize some events with external instruments or acquisition systems.

TTL Output signal are electrical isolated in order to guarantee an electrical barrier.

TTL signals are referred to Power Ground (pin 14 and pin 15)

Refer to Figure and Table below for connector pin out



*D-sub connector pins*

DB-15 Pin#	Signal Name	Signal Type	Description
1	Experiment Running	TTL OUT	Run -> TTL High Level Stop -> TTL Low Level
2	Reserved	TTL OUT	Reserved
3	Climbing Status	TTL OUT	On Climb -> TTL High level On Floor -> TTL Low level
4	Reserved	TTL OUT	Reserved
5	Reserved	TTL OUT	Reserved
6	Reserved	TTL OUT	Reserved
7	Reserved (PrtScrn)	TTL OUT	Reserved
8	Reserved	ANALOG OUT	Reserved.
9	Start/Stop In	TTL IN	Acts like the Start/Stop button in Start Page
10	Reserved (PrtScrn)	TTL IN	Reserved
11	Reserved (SaveAll)	TTL IN	Reserved
12	Reserved	TTL OUT	Reserved
13	Reserved	TTL OUT	Reserved
14	GND	POWER	Power Ground
15	GND	POWER	Power Ground

### *D-sub connector pin-out table*

\* Active only while experiment is running

\*\* It is highly recommended to calibrate the external data acquisition device, before starting experiments.

NOTE: TTL OUT is designed for connection with scientific instruments!

**DO NOT CONNECT ANY POWER DEVICE!**

NOTE: DO NOT SINK a current more then 10mA from each TTL pin! **DAMAGE WILL OCCUR.**

## 7 Maintenance

While any service of the instrument have to be carried out by Ugo Basile personnel or by qualified personnel authorized by UGO BASILE organization, this manual section describes normal maintenance procedures which can be carried out at your facility.

### **UNPLUG THE MAIN CORD BEFORE CARRYING OUT ANY MAINTENANCE JOB**

The device does not require any particular maintenance.

### 7.1 Electrical

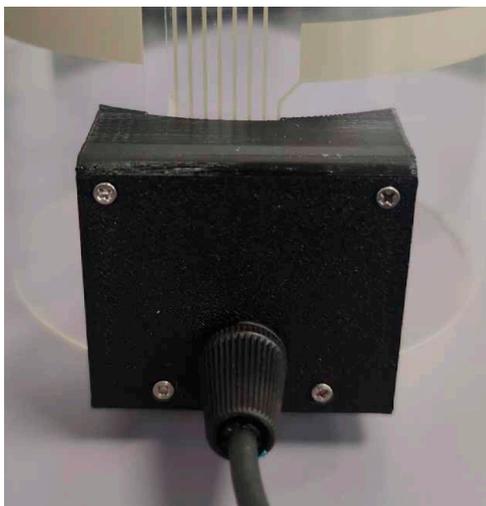
To inspect and/or replace the fuses, disconnect the mains cable first!

Insert a miniature screwdriver in the slot indentation and snap out the slide which houses the fuses. Snap in the fuse slide: the mechanical “click” ensures that it is locked.

### 7.2 Cleaning/disinfection

Climbing test does not require any maintenance apart from normal cleaning.

**ATTENTION: The black box applied to the sensing cylinder must not come into contact with liquids as it contains electronic components.**



Do not use organic solutions, liable to impair the discs and the acrylic components and touch-pad.

Cotton wool and water can be used for cleaning purposes. For disinfection, use a non-alcoholic disinfectant, or H<sub>2</sub>O<sub>2</sub>.

DO NOT use aggressive chemical agents to clean any part of the device.

**Disinfection:**

While the device can be sanitized using vaporized hydrogen peroxide, keep particular attention during the sanitation process while H<sub>2</sub>O<sub>2</sub> at high concentration and high temperatures for a long time can damage the aluminium and plastic device parts.

## 7.3 Long Inactivity

The instrument does not require any particular maintenance after long inactivity, except cleaning.

It is possible that after years of inactivity the internal battery needs to be replaced.

## 7.4 Customer Support

For any further information you may desire, concerning the use and/or the maintenance of the device, please do not hesitate to contact our service department (or our local distributor) either directly or via our support page at the following link:

[ugobasile.com/support/support-request](http://ugobasile.com/support/support-request)

Before sending any instrument to our factory for repair, please contact our logistics department to obtain a return authorization number (RMA) and shipping/packing instructions. We may not be held responsible for damages during transport due to poor packaging; whenever possible, please use the original packaging.

## 8 Specification

<b>General</b>	
Command Input	4.3 inches touch-screen (Resistive)
Read-out	4.3 inches touch-screen (Resistive), PC
Power Requirements	Universal input 100-240 VAC, 50-60Hz, 20W max
Sound Level	Negligible
Operating Temperature	18°C to 25°C
Endpoints and statistics	Max height, Average height, Activity, Total climbing time, Total time on roof, Latency on the single climbing event
<b>Operation</b>	
Start/Stop	By Start/Stop button on the touch display
Tare	From the "ZERO" button in the "Start experiment menu"
Experiment duration	Max 3600 seconds
Climbing sensors	7 rings + 1 on the roof
Data Portability	By USB flash drive (included) or LAN connection
LAN connection	Ethernet via TCP/IP
Data format	.csv (Comma Separated Values)
<b>Physical</b>	
Sensing cylinder diameter	External 12 cm, internal 11,5 cm
Grid cylinder diameter	11 cm
Sensing cylinder height	29 cm
Grid cylinder height	28 cm

## 9 Warranty

Your device is covered by 12 months on factory warranty period.

Registering the device on our registering web site page will give you an additional 12 months free warranty period.

To make the product registration.

1. Photograph or note the serial number of the device, which can be found on a metal label on the back of the device.
2. Browse the internet page: [register.ugobasile.com](http://register.ugobasile.com)
3. Fill out the form and you will receive the new warranty certificate

### **UB Care warranty extension**

It is possible to buy a warranty period extension called UB Care 12 or UB CARE 24 respectively of additional 12 or 24 months.

UB CARE is available only within the first 12 months after the delivery date, not later.

# 1. Related products

Estimates suggest that 20% of adults suffer from pain globally. Chronic pain is the most common cause of long-term disabilities.

Since 1963, Ugo Basile's devices have increasingly acquired a leading role in the field of pain and inflammation preclinical research, becoming precious tools for researchers to achieve their experimental objectives.



35550 - Thermal Gradient Ring (Zimmermann's method)



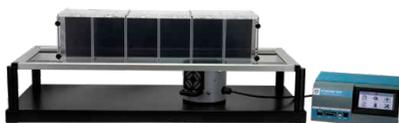
37550 - Dynamic Plantar Aesthesiometer - For Automated Mechanical Stimulation and Allodynia



38450 - Electronic Von Frey - e-VF Handheld



37450-275 - Von Frey Filaments manual touch sensitivity kit



37570 - Plantar Test for thermal stimulation - (Hargreaves Apparatus)



37560 - Tail Flick Unit - Thermal stimulation, D'Amour & Smith method



37300 - I.R. Heat-Flux Radiometer for Tail Flick and Plantar Test



37215 - Analgesy-Meter Randall-Selitto paw-pressure test



38500 - PAM Pressure Application Measurement (for joint pain)



31300 - Orofacial Stimulation Test (Fehrenbacher, Henry, Hargreaves method)



35300 - Hot/Cold Plate NG for screening of thermal hyperalgesia/allodynia



35350 - Thermal Place Preference (TPP Test) for Mice & Rats



47885 - Librae Incapacitance Tester (Weight Bearing)



36103 - Climbing Test - Measures Vertical Activity in Rodents



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