



KINVENT
MEASURE. MOVE. PROGRESS.



K-POWER

USER MANUAL

NOTICE

This manual concerns **K-Power** products. The information content of this manual belongs to KINVENT, and is provided only for the purpose of operating **K-Power** and software. This manual is subject to modifications. The latest version is available on www.k-invent.com

NOTICE

The advice given in this manual is intended to supplement, not supersede, the normal safety requirements prevailing in the user's country

Manufacturer

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This product is protected by granted patents, pending patent applications and their corresponding national rights.

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Graphic Symbol

| | | | |
|---|---|--|--|
|  | European Conformity |  | Class III Electrical Equipment |
|  | Keep Dry. |  | Sensor will not work when connected to AC outlet |
|  | Consult electronic instruction for use |  | Non Ionizing radiation |
|  | Attention, See Instructions for use before use. |  | Direct Current IN |
| SN | Manufacturer's serial number |  | The devices utilize a Bluetooth LE radio for wireless communications |
|  | Recyclable Packaging Box |  | Do not dispose of the units in normal household waste. Dispose products in accordance with local regulations |
|  | Recycling instruction for specific countries |  | Plastic Resin codes of materials used (eg. Polypropylene) |
| IP22 | Environmental Protection indicator, | | |

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Introduction

Thank you for purchasing the **K-Power**

K-Power is developed by KINVENT to objectively quantify training. **K-Power** is the tool designed for assessing, monitoring and exercising speed, power and explosiveness. The device is built with high precision measuring Ultra wide Band radio systems and Inertial measurement systems and with the **KINVENT's** excellence in interface development, mechanics and electronics.

About us

KINVENT is specialized in the design and manufacturing of biomechanics equipment. Our strength is that we can conceive and implement solutions to any challenge in sports biomechanics and physical rehabilitation. Our products include ready-to-use force plates, inertial wireless sensors, dynamometers, simulators and various custom-made applications.

Find more information on our products at www.k-invent.com.

Safety Information

The instructions and safety information in this user manual must be followed to ensure safe operation of the **K-Power**. Please note that if the equipment is used in a manner not specified by KINVENT, the protection provided by the equipment may be impaired.

The following types of safety information appear throughout the Manual. Details are given in the format as shown below:

 **WARNING**

The term WARNING is used to inform you about situations that could result in serious damage to the device or other part of the System and to the environment.

 **CAUTION**

The term CAUTION is used to inform you about situations that could result in damage to the device that affect the measurement results or pose a risk to the safety of the patient/user or the operator.

 **NOTICE**

The term NOTICE is used to indicate information considered important but not hazard related (e.g., security messages, maintenance and cleaning guidelines)

Photosensitive seizure warning

WARNING

A very small percentage of people may experience a seizure when exposed to certain visual images, including flashing lights or patterns that may appear in video games. Even people who have no history of seizures or epilepsy may have an undiagnosed condition that can cause these “photosensitive epileptic seizures” while watching video games. These seizures may have a variety of symptoms, including altered vision, eye or face twitching, jerking or shaking of arms or legs, disorientation, confusion, or momentary loss of awareness. Seizures may also cause loss of consciousness or convulsions that can lead to injury.

Immediately discontinue playing and consult a doctor if you experience any of these symptoms. Parents should watch for or ask their children about the above symptoms.



KINVENT Fitness application (v. 2.20¹)

KINVENT Physio is the only app you will need for the **K-Power**. All tutorials for the KINVENT Physio app are available online

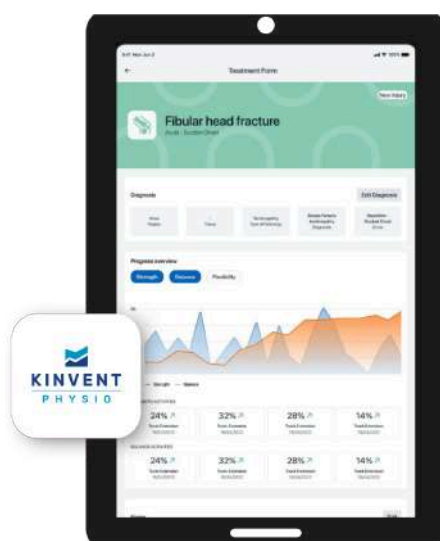
at: [Kinvent.link/quickstart](https://kinvent.link/quickstart)

The app is a smartphone/tablet application that supports the **K-Power** and K-SENSORS. The KINVENT Physio app records the measurement data from all compatible sensors and provides instant analysis and advanced parameter calculations replacing manual calculations.

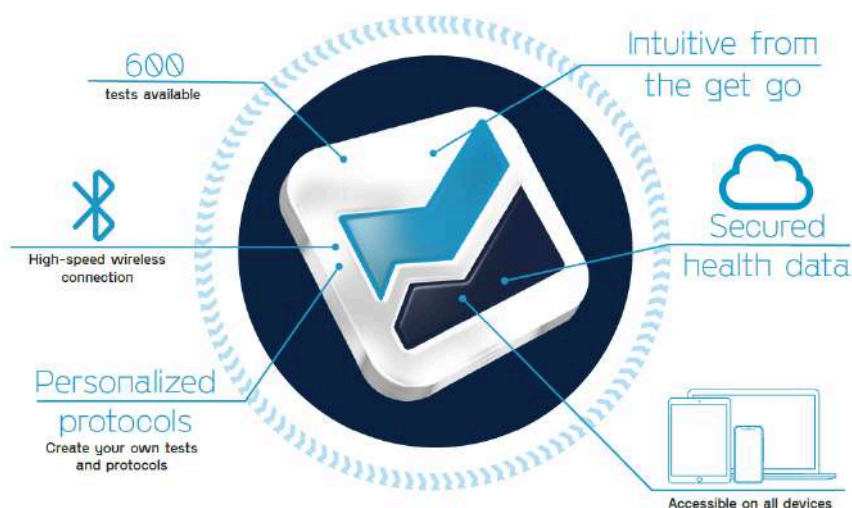
The KINVENT Physio app allows users to select the duration of recording, the rest time, repetitions, initial pause, detection threshold, sampling frequency, measurement units, enable video capture, as well as get detailed information on the measurement protocols via images and on-screen help. Further information such as white-papers are available for reference. The KINVENT Physio app can take unlimited number of recordings (limited by the available smartphone/tablet storage) which are also stored in the cloud and can be shared with the patients via the MyKinvent cloud platform

The KINVENT Physio app enables users to:

- Create user and trainer profiles and assign tags / filters by pathology
- Collect and store multiple measurements from all compatible sensors for any of the user profiles.
- Transmit the data to the KINVENT Health data servers in an encrypted format
- Create PDF reports
- Export measurements in CSV format (Excellence Tier feature)
- Use validated protocols (Different protocols available depending on License Tier)
- Train using games (Starter Tier feature)



¹ Latest version may differ on the **App Store** / **Google Play**



Installation the Application on the Host Device

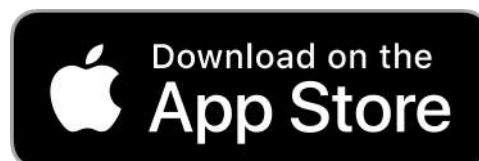
Minimum Requirements: Android 10.0+ or iOS 12.0+, 2GB of RAM, Bluetooth Low Energy 4.2+, 5" (12.7cm) Screen diagonal. For Mac OS a minimum of M1 processor is required

Recommended: Android 15.0+ or iOS 18.0+, 4GB of RAM, Bluetooth Low Energy 5.0+, 6.5" (16.5 cm) Screen diagonal. For Mac OS M2 and M3 processors are recommended.

Download the App from **Google Play** for Android Devices or **App Store** for iOS devices

Follow the Instruction registration on the App

Connect the Device with the App Via BLE



First Login

The KINVENT Physio App will require an initial registration and some information regarding the operator's specialty and profile to help ensure proper use.

Security

It is highly recommended to keep the app unlock pattern enabled to guard the sensitive information stored and use a complex pattern. It is important to also secure your smartphone/tablet since you will be storing personal health information via the use of passcode, 6 digit or higher PIN, Touch ID or Face ID (availability depends on the smartphone abilities). Review your smartphone for information on how to add a layer of security.

The KINVENT Physio App does not require an active internet connection for the recording and analysis of the data. All data will be stored in the local memory of the smartphone/tablet. However for cybersecurity purposes, the user is required to periodically re-login so that the account is verified and internet connection is required during the log-in. Additionally, the locally stored data will be synced when the internet connection is again available.


You need to connect the **K-Power** with compatible Bluetooth® Low Energy (BLE) devices to store, analyze and view the measurement data. These host devices HD can be, for example mobile devices running respective host applications (KINVENT Physio) for data visualization.

Registering sensors

The **K-Power** can be registered in the KINVENT Physio App in order to be easily identified when starting an exercise.


You can register the devices with multiple host devices, but only one connection can be active at a time.

To register a sensor

- Launch the app
- Log-in using your password and unlock pattern
- Tap the sensors “” icon
- The app will ask to enable the Bluetooth connection, tap on enable
- Make sure you have turned on the K-Sensor you wish to register
- Tap on “**Register Sensor**”
- The app will start to search for devices, and will prompt you to select the type of K-Sensor you wish to register (**K-Power**)
- Select the device you want to register from the list
- If no K-SENSORS are found you will be prompted to retry making sure that their LED is on and flashing Green

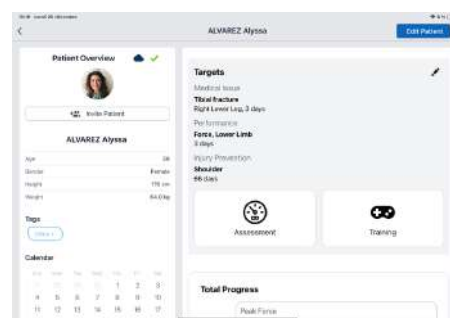
Adding a user

To create a new user profile:

- From the Home screen tap “**Patient List**” or tap on the icon “” on the bottom
- Tap “**(+) Add patient**”
- There it is necessary to fill in the Last Name/ First Name and the Date of Birth of the user. You can scroll and add other information such as weight/height contact info etc. or add a photo.
- Once you have completed all the information, tap on “**Complete**”


Full user file





- Fill in the user pathology information to guide care and make their file available to all healthcare professionals and other trainers.



Starting a measurement

To start a measurement:

- From the Home screen tap “**Patient List**” or tap on the icon “” on the bottom
- Scroll or search for the user that will be performing the assessment
- Tap on the name of the user

- Scroll downwards and tap either on **“Assessment”** (or **“Training”** if available)
- A list of exercises/protocols is shown. A series of filters are shown on the right depending on the K Sensor to be used and the body part that will be assessed
- Make a selection of the appropriate assessment type.
- Single type assessments have one type of assessment, while protocols have multiple steps and in-between rest recommendations or other steps.
- Once you tap on the selected assessment, the configuration screen will show up
- Select the Left/Right or the side that will begin with, select the preparation time, the duration and rest times, choose the number of repetitions as well any other specific to the assessment setting (threshold/segment length/video capture)
- On the top right, the list of the required K-SENSORS will be displayed along with a flashing orb.
- The orb color and flashing indicates the status of the connection.
 -  Grey orb slow flash: Searching
 -  Circle rotating: Connection in progress
 -  Blue tick: Connection established and ready for exercise
 -  Red orb: Error on the device or connection failed
- Once all devices have a blue tick shown , tap on **“Start”** and follow the on-screen instruction.


Standard premium evaluations

Take a scientific approach to validated standard protocols: CMJ, Drop jump, Squat jump, McCall test, ASH test, squat analysis, Romberg, test profile strength, DSI, EVA, max strength, IMPT, antagonist ratio, posture analysis.




Accessing the Library

In the KINVENT Physio app, a variety of scientific and academic documents are available for in-depth study. Additionally Tutorials and helpful videos are available

- From the Home screen tap the “” icon at the bottom
- A list of features is available
 - **K-Pedia:** A database with explanation of terminology for all parameters and metrics available and calculated in the app
 - **Test Bank:** A list of all available protocols and assessments. Tap on any one of them to view instructions on how to perform, definitions, purpose of the assessment, K-Sensors and tools required, suggested configurations and instructions for the patient as well as key results obtained and any references regarding the validity of the assessment.
 - **Bookshelf :** A list of ebooks , white papers and publications
 - **K-Start:** A link to the online quick start videos to help users familiarize with the application
 - **Tutorials:** A list of video tutorials for a number of exercises and assessments with live demonstrations and guidance
 - **Help Center:** A link to the list of short help articles of more advanced features of the app.

Settings and Account management

- From the Home tap on the icon “” on the bottom
- In the menu, you can adjust your personal info and other app settings
 - Tap on **“Profile”** to edit personal details and change your password
 - Tap on **“Organization”** to add a logo and set the name/address and other info to be shown in your personalized reports
 - Tap on **“Users”** to add other physician/medical personnel that will be using this account (Number of users depends on the license tier)
 - Tap on **“Settings”** to choose the language, measurement units, set the sampling frequency, enable/disable sound effects.
 - Tap on **“Addons”** to enable or connect any one of the additional app extensions. To use these features a separate account with these providers may be necessary
 - Tap on **“Pattern”** to enable or change your unlock pattern
 - Tap on **“Cloud”** to check the current connection status and/or upload manually the local measurements
 - Tap on **“Subscription Plan”** to view your current subscription level, and review the privacy policy and General Terms & Conditions
 - Tap on **“Contact us”** to connect with customer support
 - Tap on **“Privacy Information”** to review legal documents and check the app version.

Supplemental App Features

Personalized reports

Synthesize your rehabilitation results with the multiple export module.

| Activity | Left | Deficit (%) | Right |
|----------------------------------|------|-------------|-------|
| Left knee Extension (MP Flexion) | 276 | 72.1% | 362 |
| Right knee at 90° Flexion | 224 | 12.4% | 93 |
| Ratio | 128 | 8.9% | 580 |

| | |
|---|--|
|  Sports Physio America 353 Main Street Tel: 4275510358 e-mail: sportphysio@gmail.com | Kinvent Karl Kinvent's Head Signature |
|---|--|

K-aapture

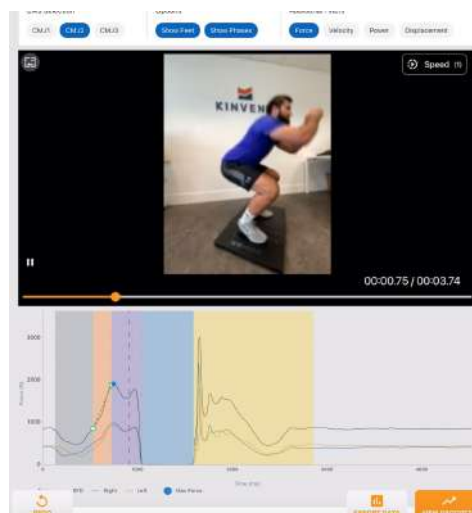
Film your user's movement and synchronize it with every KINVENT Physio evaluations. Carry out qualitative analysis to integrate in your reports.

MyKinvent

Give your user agency in their training by giving them access to their own data.

KINVENT Connect

Centralize all your data in one place and access it from any device: smartphone, tablet, computer, etc.



Safety precautions

The safety information must be read thoroughly and understood before starting the work with **K-Power**

WARNING

- **Take care of the strong attachment and placement of the dock station of the K-Power**
- **Do not dispose of the K-Powers trackers or dock in fire.**
- **K-Power trackers and dock contain lithium-polymer batteries. *Do not dispose of the batteries with household waste***
- **The K-Power devices are not protected against ingress of liquids. Keep sensors dry. Do not immerse the K-Power or their accessories in water.**
- **The K-Power and accessories are provided non-sterile and are not compatible with autoclave or other sterilization techniques. Do not autoclave.**
- **Use only a factory supplied wall pack power supply, charger. Use of another charger may result in electrical shock or equipment damage.**
- **K-Power is not intended for use while attached to a wall-power supply or a charger. Never attempt to operate the instrument while it is connected to the charger as electrical shock or damage to the instrument may occur.**
- **K-Power should be treated with care. Do not drop, bang, hit or subject the K-Power to strong shock . Be careful to have a firm grip when holding K-Power in order to avoid accidental fall of the system which may cause damage to the sensor or injury to the user/operator.**

CAUTION

- Only use the device in your existing environment during your daily routine activities. Do not use the device during enhanced or irregular activities or outside your natural environment, unless specifically instructed otherwise by your doctor or physical therapist.
- Do not drive or operate heavy machinery while wearing the device.
- Users with disabilities (e.g. neurological disorders, osteoporosis), which may cause contraindications, or users for whom exercise may be extremely dangerous, must take precaution to ensure their safety when using the device (e.g., supervision, etc.).
- Do not use the device if you suspect that it is faulty or has been damaged. Do not try to repair the device on your own. Contact KINVENT immediately via the support methods.
- Do not give, sell, rent or allow the use of your device to or by another person.
- Stop the use of the system immediately if parts are damaged or if a change in the performance is observed.
- Stop the use of the system immediately if an allergic reaction is observed.

- Do not modify this system without prior written authorization of the manufacturer. If this system is modified, appropriate inspection and testing must be conducted to ensure continued safe use of the system.
- Always consult your doctor if you have a medical condition and before beginning a program.
- Always consult your doctor before using the device if you have a pacemaker or other implanted device. Although several implanted pacemaker manufacturers state the risk associated with the simultaneous use is low, it is essential to consult a doctor who knows the exact type and model of the implanted device in question before using the system. In any case keep the device at least 15 cm (6") away from the implanted device.
- Do not use the device during magnetic resonance imaging (MRI), unless specifically approved by the personnel operating the MRI equipment. The battery inside the device is sensitive to magnetic fields.
- The device is not for multiple users if consequences from possible cross contamination may be severe. Careful cleaning and disinfection are recommended to prevent cross infection if used by multiple users.
- The conductive parts of the device must not be allowed to contact any conductive parts, including protective earth connection.
- Keep the device and any part of the system away from the reach of children, pets or pests when not in use.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the system. Otherwise, degradation of the performance of this system could result.
- Use of this system adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this system and the other equipment should be observed to verify that they are operating normally.
- If the storage temperature is below 0°C, allow the parts of the system internal temperature to stabilize for at least 30 min before use. Be aware of condensation
- If the part of the system is to be used in an environment prone to dirt build-up, clean the device regularly. For cleaning, please follow the instructions provided in paragraph "Cleaning".
- Use the system at least 30 cm (12") away from the sources of power line frequency magnetic fields, radio frequency communications equipment and other sources of radio frequency signals (such as radars or microwave ovens).
- If the measurement results are fluctuated by a strong nearby radio frequency disturbance source, move further away from the source of the radio frequency disturbances.
- Avoid using the system in the proximity of electrostatic disturbance sources. Do not use close to a 2.4GHz signal source, as strong signals may negatively affect the performance of the radio link.

- Prior to each use of the device you may want to re-check and confirm that parts are properly attached.
- Should any problem occur as a result of the device, you are advised to discontinue use immediately and contact your doctor or physician immediately
- Contact the manufacturer in case assistance is needed in setting up, using or maintaining the device or to report unexpected operation or events.
- **K-Power** should only be used by trained professionals.
- Not recommended for use in extreme temperatures, high humidity, or direct sunlight
- Ensure the user is able to keep his balance while watching the screen to avoid fall
- **K-Power** is not known to contain any hazardous materials. For proper disposal instructions, consult your local waste management facility. E-waste recycling should be used where available.
- Do not service the battery while in use with a user.
- Never disassemble or modify the system using any accessories not specifically approved by KINVENT Biomécanique, LLC, this will void the warranty as well as reduce immunity to electromagnetic interference, or increase electromagnetic emissions, and result in improper operation.
- Don't place the **K-Power** or its components on unstable surfaces, or surfaces subject to vibration.
- Electrical Equipment needs special precautions regarding EMC. **K-Power** need to be installed and put into service according to the information provided in this manual.

Replaceable Parts

- Straps and holder, Battery of dock 903040

General Operating Conditions

Operating Environment

K-Power can be used indoors or outdoors depending on local regulation regarding UWB. Make sure you have plenty of space around you when you use it.

WARNING

The use of Ultra-wideband (UWB) is prohibited aboard aircraft or ships and must be turned off. The use of other features of this device on an aircraft or a ship may be subject to federal and local guidelines and restrictions. Check with appropriate authorities and always follow crew instructions regarding when and how you may use your device.

Storage, Packaging and Transportation

Altitude up to 2000 m, Temperature -10 °C to 40 °C (14 °F to 104 °F) , Humidity: < 85% (without condensation), POLLUTION DEGREE 2

When not in use, please store them in the protective carrying pouch.

If the **K-Power** is stored for longer than 30 days, check battery level and recharge if necessary before using.

CAUTION

Please observe the storage conditions and never store them in an automobile except when transporting them.

Calibration

K-Power gives you metrics on human movement such as velocity, acceleration and distance. **K-Power** is sold already calibrated, to make them ready for use out of the box.

We recommend that the product be tested for calibration at least once a year under normal use or sooner under severe conditions and usage.

A calibration check can be done by placing the Dock and Tracker on stationary tripods at specific distances and checking the results. Adjustments can be made through the app.

K-Power is not user serviceable and does not include a service manual. For more information on calibration as well as special requirements, please contact your **K-Power** dealer.

Cleaning

NOTICE

The cleaning paragraph must be read thoroughly and understood before starting the cleaning work.

K-Power should be cleaned after each use. Cleaning and disinfection of the **K-Power** can be performed by the system operator or the user.

In order to clean the **K-Power's** housing, use a damp cloth moistened with water or a mild detergent. If the dirt is persistent, rub the surface of the **K-Power** with a cloth moistened with ethanol-based disinfectant or with 70% alcohol solvent. Do not use aggressive cleaning agents such as acetone.

For more persistent stains and for disinfecting the **K-Power Low level or intermediate level disinfectants should be used (e.g. alcohol wipes). Do not use bleach to clean the plastic parts, prefer alcohol blends**

Do not use objects that could damage or scratch the surface.

If the inside of the **K-Power** is contaminated, contact your local distributor or KINVENT support directly.

WARNING

Careful cleaning and disinfection by the operator are recommended between uses to prevent cross infection if used by multiple users . Disinfect before and after each use. Allow disinfectants to dry before taking into use. Not to be used by multiple users if consequences of cross contamination may be severe.

NOTICE

Repetitive disinfection with ethanol-based disinfectant may in the long run cause aging and discoloration of the case used. Discoloration does not affect safe use. If any cracks or structural damage is observed, replace the device .




Dock Interface

- 1- Multi color LED
- 2- USB-C charge port
- 3- Power on/ Command orange button



Dock LED States

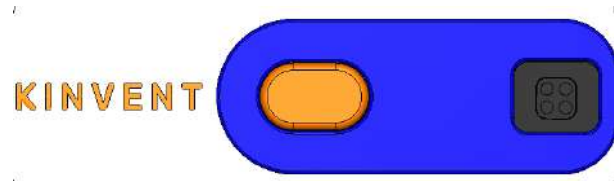
- When the **Dock** is connected via USB it will start charging the battery indicated by a pulsing **GREEN** light.
- Once the battery reaches full charge the **Dock** will indicate this by switching to permanent **GREEN** light. If power is removed the Dock will power off.
- The Dock will switch off if the battery voltage is lower than 1%.
- A single push on the button will display the battery status via bright **red, yellow, or green** light depending on charge level.

| Visual | LED Functionality | Explanation | Action requested |
|---|---------------------------------------|---------------------------------------|---|
|  | LED is OFF | The Dock is OFF | Press the button to power on the dock |
|  | GREEN LED pulsing (slow blink) | Dock is ON and charging | The dock will stay on and charge until full |
|  | GREEN LED is lit steady | Dock has reached End of charge | The internal battery is at 100%. You can remove the cable |

| Action | LED behavior | Explanation |
|--|--|---|
| Button pressed once during ready or connected state | Steady lit LED color Green, Yellow or Red | Battery state of charge Green : 71 to 100% Yellow : 31 to 70% Red : <30% |



Tracker Interface

Multi color LED surface
Charging pogo pins
Power on/ Command orange button



Tracker LED States

- When the **Tracker** is connected to the Dock it will power on indicated by **GREEN** light that will **blink twice** and start charging indicated by a **pulsing GREEN** light
- After 10min or if the button is pressed for 5sec the tracker will **turn off** indicated by one short white blink. The device will then switch to **pulsing ORANGE light** and continue charging
- Once the battery reaches full charge the **Tracker** will indicate this by switching to a chasing **WHITE** light. If removed from the **Dock** the **Tracker** will power off.
- If the battery is low, then a **RED** light will flash intermittently three times and every 5 seconds.
- The **Tracker** will switch off if the battery voltage is lower than 1%.
- A single push on the button will display the battery status via bright **red, yellow, or green** light depending on charge level.

| | LED Functionality | Explanation | Action requested |
|---|------------------------------|-----------------------------------|--|
| | Surface is OFF | Sensor is OFF | Press the button to power on the sensor |
|  | Surface blinks ORANGE | Device is OFF and charging | None- the sensor will continue charge until full |
|  | Surface blinks GREEN | Device is ON | Normal operation - Tracker is ready to connect |

| | | | |
|--|--|---|---|
|  | Surface blinks BLUE | Device Connected | Tracker is connected to the app (tablet/phone) |
|  | Surface lights with a chasing or static WHITE pattern | Device has reached End of charge | Internal battery is 100%, you can remove it from the dock |
|  | Surface lights in a rainbow mode | Device started in tracker mode | Attach to athlete/user |
|   | Various color modes (violet, cyan, magenta, yellow)* | Device is indicating information according to the app explanation | Follow on-screen instructions |

*These color modes are subject to change according to the application version and may also include short or fast blinks to attract attention.

K-Power



Description

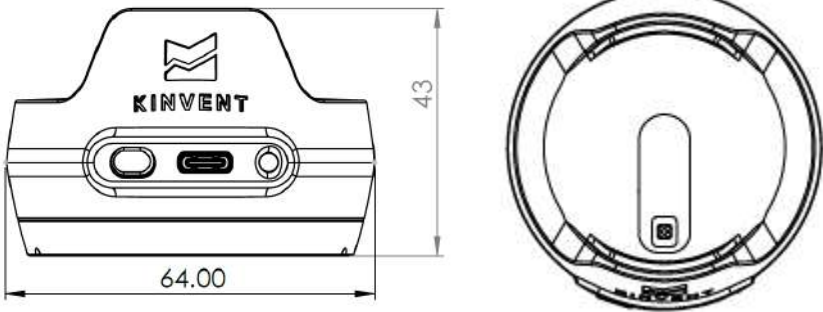
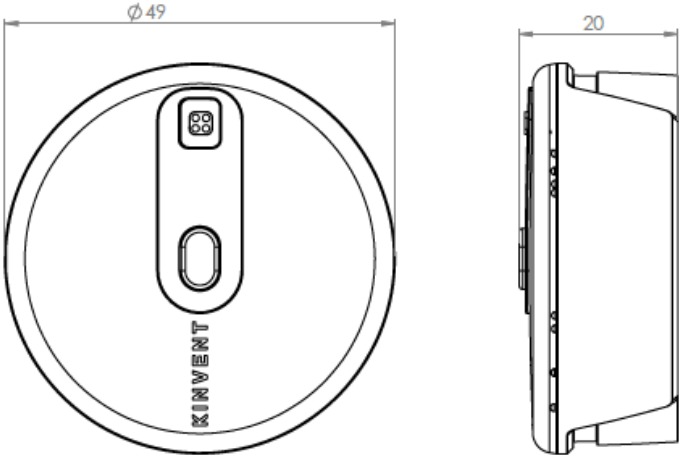
K-Power is a mesh system comprising at least 2 devices, one having the role of the wearable tracker and one acting as a stationary beacon when placed on the dock. The system is used for assessing speed, power and explosiveness.

Benefits

K-Power is equipped with a 9-axis Inertia measurement unit and an Ultra Wide Band Radar giving real-time acoustic and optic biofeedback on your Smartphone or Tablet through the KINVENT Physio app.

Technical Features

Dimensions and Weight

| | |
|----------------|---|
| Weight | Dock : 120g Tracker : 30g |
| Dock | Dock : Diameter 64 x 43mm  |
| Tracker | Tracker: Diameter 49 x 20mm  |

Accuracy and Acquisition data

| | |
|--|---|
| Max Accelerations | +/-16g |
| Static Accuracy | 2° |
| Dynamic accuracy (head., pitch, roll) | 7°, 2°, 2° |
| Acquisition frequency | up to 800 Hz |
| Eco features | Self-activated "sleep" mode after 10 minutes. |
| UWB frequency | up to 100Hz |
| UWB static accuracy | <10 cm |

Communication Data Bluetooth

| | |
|--|--------------------------------|
| Radio Technology | Bluetooth Low Energy 5.1 |
| Bluetooth Radiated output power | Max.10 mW |
| Wireless transmission Frequency | 2.4 GHz band 2402- 2480 MHz |
| Modulation | GFSK |
| Channel Bandwidth | 2 MHz |
| ERP | 8.6dbm |
| Wireless range | Up to 20 meters / 21 yd |
| Contains FCC ID | 2AAQS-ISP1807 |
| Contains IC ID | 11306A-ISP1807 |

Communication Data UWB

| | |
|--|--------------------------------|
| UWB standard | UWB IEEE802.15.4a compliant |
| Supported Bands | UWB Band 5 & 9 (6.5 / 8.0 GHz) |
| UWB antenna gain | 2dBi |
| Power rating at antenna | -41.3dBm/MHz |
| Power rating input | -43.3dBm/MHz |
| UWB channel 5 center frequency | 6489.6 MHz |
| UWB channel 5 allowed region | USA, EU, China |
| UWB channel 9 center frequency | 7987.2 MHz |
| UWB channel 9 allowed region | USA, EDU, JP, KOR, China |
| UWB channel Bandwidth | 499.2 MHz |
| UWB Range Open field at 1m height | 40m |

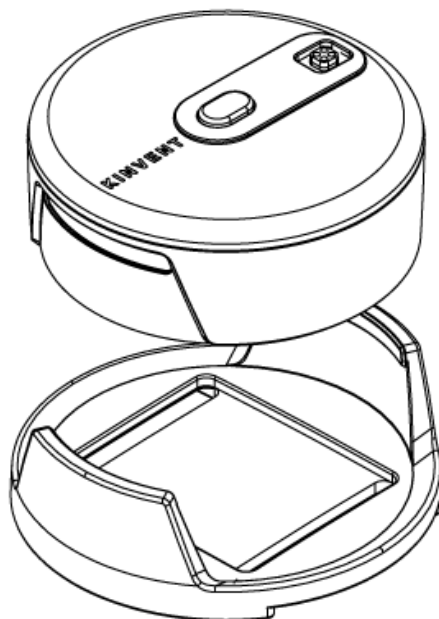
Electrical Data

| | |
|-----------------------------|---|
| Power supply | Tracker: 1 cell 3.7V Li-Po Battery 500 mAh, 1.85Wh 652533 cell type Dock: 1 cell 3.7V Li-Po Battery 1000 mAh, 3.7Wh 903040 cell type |
| Battery | 10h when operating as a station 20h when operating as a tracker 30h when operating as a docked station |
| Power input | Dock: 5V at 1A max Tracker: 5V at 0.2A max MAX 5 devices stacked on the dock for charging |
| Minimum requirements | Android 10.0+ or iOS 12.0+, Bluetooth Low Energy |

Accessories :

K-Power is provided with accessories for a turnkey operation:

A holder is attached on each belt that allows the clipping of the tracker so that it can be worn on the body.



NOTICE

The straps make use of a magnetic snap lock

To undo the strap push the two pieces sideways (up/down direction)

To tighten the strap, pull on the free end of the belt after locking the snap lock



CAUTION

When tightening the strap, do not apply excessive force , maximum allowed is 35kg
Applying more can cause harm to the snap lock and on the user

Different size belts are available:

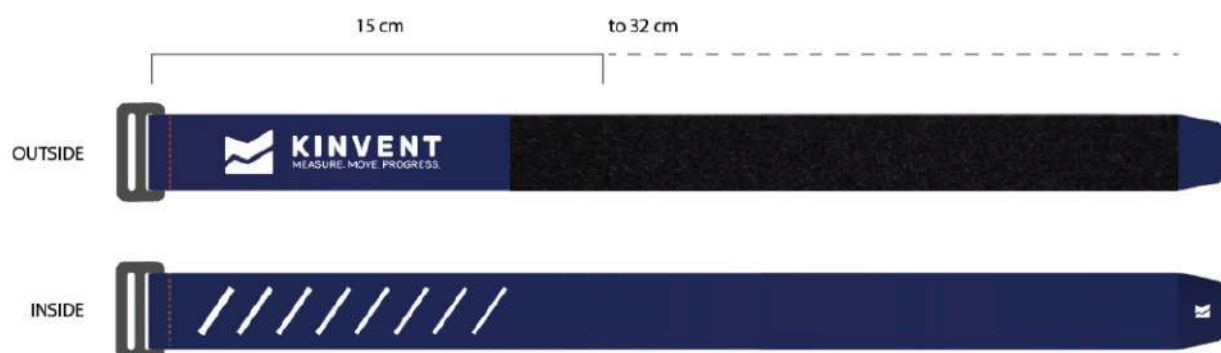
- Chest Strap 70-150 cm



- Thigh strap adjustable from 30-80cm

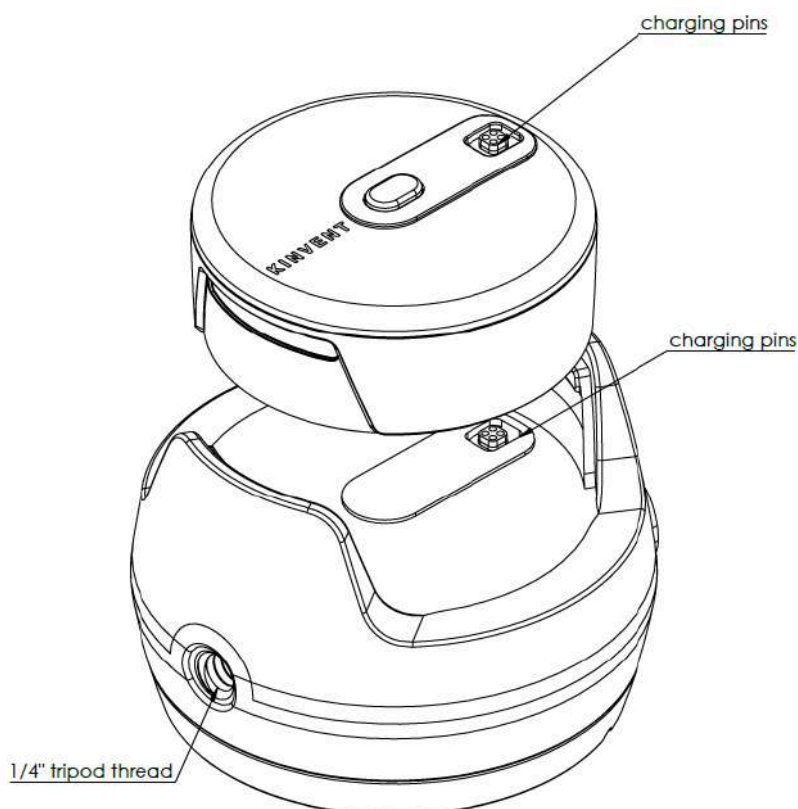


- Wrist/Bar Strap adjustable 15-32cm



Dock

The **K-Power** that will be acting as a base station (stationary) can be placed on the dock to allow easier mounting through the magnetic base and/or the mounting $\frac{1}{4}$ " threaded hole that fits most camera tripods. Furthermore the dock provides an extra 20h battery life or can be used to charge the tracker when not in use.



Installation

Install **K-Power** based on the measurement program selected and according to the on-screen instructions.

Get started

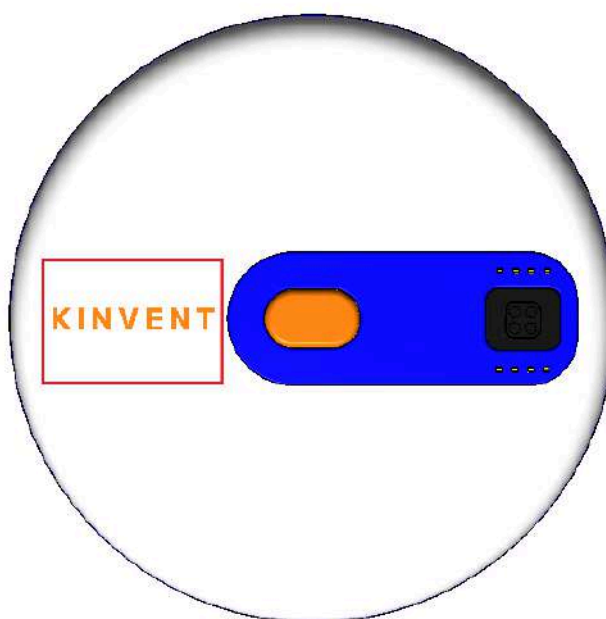
Each Tracker is fitted with a set of pogo pins that can be used for charging, 1 LED for the working/charging state and one push-button.

You can charge **K-Power** trackers through the dock station. The dock station can be charged using the USB A to USB C cable provided or with any USB-C charging cable. The sensor is supplied with the appropriate USB power supply. If a different charger is used, ensure that it meets the minimum safety requirements and if unsure please do not use the sensor while plugged in/charging.

Multiple **K-Power** trackers can be charged by stacking them and placing them on the dock.

Once the sensor is switched on, choose the joint's amplitude and the movement you want to assess. Attach the **K-Power** on the limb of your patient or on the torso. Ask him to stay in a neutral position to initialize the reference position. When you click on START your patient can start moving.

To assess a joint's amplitude of a movement not available in the list, create your own assessment.



The antenna position of the UWB is marked by the KINVENT Logo

⚠ WARNING

The maximum number of trackers is 5 for charging at max power. More can be placed but will charge slower.

⚠ WARNING

Disinfect K-Power prior to use, using antiseptic alcohol wipes.

To switch on **K-Power**, press the on-off button on each platform . You will notice a green flashing LED. Your **K-Power** is on! Your **K-Power** will switch off after 10 minutes of inactivity.

Once the sensor is switched on, go to the homepage, and select **K-Power** sensor and an activity. When the **K-Power** is connected, the LED turns Blue.

NOTICE

While your sensor is connecting, do not load the sensor, do not step on the sensor, do not move the sensor, do not apply force on the sensor.

Troubleshooting

If any difficulties occur while using the system check if the symptoms appear in the following list. For further assistance please visit KINVENT's Help Center at [Kinvent.link/quickstart](https://kinvent.link/quickstart) or use the KINVENT Physio app assistance menu: "support".

Sensor difficulties

| Symptom | Actions |
|---|--|
| The sensor isn't turning on | <ol style="list-style-type: none"> 1. Connect a known working charger with a known working USB cable and charge the sensor for a minimum of 30 min. Plug and unplug the usb cable, an orange or green light should come on after a short while. 2. Press the On/Off button until an audible click is heard and felt. 3. If you suspect failure, contact your distributor or check our website for the replacement scheme or contact directly using the KINVENT PHYSIO assistance menu |
| While having closed the app, the sensors keeps the Blue LED on | <ol style="list-style-type: none"> 1. Make sure the app is closed. On Android hold the "Home" button or press the "Recently Used Apps" button to view the list of running apps. To close the app, swipe it to the left or to the right 2. Turn off the Bluetooth on the tablet or smartphone sensor. 3. Press the on/off push button for 5 sec to force it to turn off |
| The sensor isn't shutting down after 10 minutes of inactivity | <ol style="list-style-type: none"> 1. Check if an active connection is on (indicated by blue light) and close the application/bluetooth. Press optionally the on/off push button for > 5 sec to force shut down the sensor. 2. Make sure that no load is applied on the sensor. 3. If the issue persists, you can use the on-screen instruction on the app for resetting the baseline. |
| A calibration error message is shown. | <ol style="list-style-type: none"> 1. Close the app and try again while making sure that no load is applied on the sensors. For K-Power make sure the surface is flat and stable and is not moving during calibration. 2. Contact KINVENT for scheduling a calibration. Calibration should be performed annually or sooner if special conditions apply. |
| A part is damaged/ lost | <ol style="list-style-type: none"> 1. Please contact KINVENT to arrange a replacement spare part. |

Connectivity difficulties

| Symptom | Actions |
|---|---|
| The sensor is turned on but isn't connecting. | <ol style="list-style-type: none"> 1. Make sure your smartphone or tablet is compatible with KINVENT Physio. 2. Check if Bluetooth and location services are enabled, on your tablet or smartphone 3. Check if the sensors are properly charged - pressing the button should light up the LED indicator and pressing a second time will bring a steady light indicating the battery charge level, make sure that it is green or orange. 4. Restart the app. On Android hold the "Home" button or press the "Recently Used Apps" button to view the list of running apps. To close the app, swipe it to the left or to the right 5. Restart your tablet or smartphone. 6. Make sure your sensor is close to your tablet or smartphone ideally no more than 5 meters/ 5.5 yd . 7. Don't pair manually the K-sensor in the Bluetooth settings of the tablet, otherwise please unpair immediately |
| The sensor lost connection during training | <ol style="list-style-type: none"> 1. Do not plug the USB C from the sensor to a computer or smartphone for charging during training. Only use the supplied or equivalent USB charger. |
| While connecting the app is showing a gray or red circle on the sensor | <ol style="list-style-type: none"> 1. Please turn off the sensor and try again. 2. Make sure that you are within range while using of the sensors 3. The official Bluetooth specifications state seven is the maximum number of Bluetooth sensors that can be connected at once. However, three to four sensors is a practical limit, depending on the sensor. Make sure that no other Bluetooth sensors (headphones/speakers etc.) are connected. |
| After connection , Green led is still flashing. | <ol style="list-style-type: none"> 1. Use the sensor registration menu in the application to identify using the serial number of the sensor the correct sensor. Another sensor is possibly nearby. 2. Check if other sensors are in the near area and either allow them to turn off or manually power them off. 3. For K-Power please verify that both two trackers are available and turned on and one of them is placed on the dock. |

Legal information

Warranty Terms

This warranty shall not apply if the product

- is used with non-compatible products
- is used for commercial purposes such as rental
- is modified
- is damaged by accident, misuse, wear, or any other cause not related to defectiveness of materials or fabrication.

A valid proof of purchase in the form of a bill of sale or receipt must be provided to obtain warranty services.

KINVENT excludes all liability for any data loss, loss of profit or any other loss or damage suffered by the end customer.

European Union

K-Power is warranted for its electronics and all mechanical components for a period of 2 (two) years from the purchase date when used in accordance with the present manual. KINVENT can proceed to replace **K-Power** covered by the warranty free of charge. The warranty is invalid in case of modification or replacement of any component in **K-Power**, made without the KINVENT's authorization or the authorized **K-Power** dealer's authorization. KINVENT doesn't guarantee any therapeutic result when using **K-Power**. You must contact KINVENT or your authorized dealer to receive a return authorization and shipping instructions.

Other countries

K-Power is warranted for its electronics and all mechanical components for a period of 1 (one) year from the purchase date when used in accordance with the present user's manual. KINVENT can proceed to replace **K-Power** covered by the warranty free of charge. The warranty is invalid in case of modification or replacement of any component in **K-Power**, made without the authorization of KINVENT or the authorized **K-Power** dealer. KINVENT doesn't guarantee any therapeutic result when using **K-Power**. You must contact KINVENT or your authorized distributor to receive a return authorization and shipping instructions.

Obligations of the User

Except in case of damage or defect attributable to KINVENT Biomecanique, the user shall not make any claims against KINVENT or their subsidiaries for any damaged or defective products or components. The user shall carefully examine the condition of the products immediately upon receipt.

If instructions given by KINVENT Biomecanique with respect to storage, installation and handling of the products are not observed or if changes are made to the product, if components are replaced or if consumable items are used which do not comply with the original specifications, any warranty rights are forfeited unless the user is able to refute any assertion that only any of these circumstances has caused the deficiency.

Defects, incorrect deliveries, quantities, or transport damage are to be notified without delay by the user in writing, by fax, or by email (in case of defects which can be identified immediately) to the KINVENT Biomecanique's distributors or to KINVENT Biomecanique directly, otherwise within two weeks of receipt of the products at the place of destination,

by clearly describing the defect; in this respect, it is necessary that the user properly fulfills his obligations of investigation and notification.

In case you need to return one or multiple **K-Power**, the sensors and accessories must be decontaminated and free of infectious material in order to be handled safely in a non-biological safety laboratory (see Cleaning instructions on each sensor).

The **K-Power** must be returned in the original packaging. If not available anymore please inform the support or authorized distributor.

How to repackage for a return

- Pack the sensor in the original packaging (or bubble wrap if original packaging not available)
- Print and fill the after-sales service form
- Pack the sensor + form in a package
- Stick the return voucher on the package and ship

Are considered as signs of material degradation

- Scratches
- Broken parts due to drops or inappropriate uses
- Modification or replacement of any component
- Wet environment exposition
- Underwater immersion
- Extreme temperature exposition

Service policy

You acknowledge that any time your **K-Power** product is serviced, this service may change your settings or cause loss of data or of some functionalities. Backup your data (stored on your tablet or smartphone) on a regular basis.

Waste Electrical and Electronic Equipment (WEEE) Policy

This section provides information about disposal of waste electrical and electronic equipment by users in the European Union.

The European Directive 2012/19/EC on WEEE requires proper disposal of electrical and electronic equipment when it reaches its end of life. The crossed-out wheeled bin symbol (see below) indicates that this product must not be disposed of with other waste; it must be taken to an approved treatment facility or to a designated collection point for recycling, according to local legislation. The separate collection and recycling of waste electronic equipment at the time of disposal helps to conserve natural resources and ensures that the product is recycled in a manner that protects human health and the environment



KINVENT accepts its responsibility in accordance with the specific WEEE recycling requirements and, where a replacement product is being supplied by KINVENT, provides free recycling of its WEEE-marked electronic equipment in Europe. If a replacement

product is not being purchased from KINVENT recycling can be provided upon request at additional cost. To recycle electronic equipment, contact your local distributor for the required return form. Once the form is submitted, you will be contacted by the distributor either to request follow-up information for scheduling collection of the electronic waste or to provide you with an individual quote.

FCC information

K-Power is a product using certain radio-frequencies during functioning. **K-Power** equipment has been tested and found to comply with the limits for a Class B digital sensor, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 5 mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines

Contact Information

For any information or Assistance, please contact:

www.k-invent.com

support@k-invent.com

6 Rue de Pommessargues,
34000 Montpellier, FRANCE

Release changes

| | | |
|--------------|------------|--|
| FTKPower-25A | 2025-02-18 | Initial version |
| FTKPower-25B | 2025-04-04 | Revision with new antenna data and accuracy |
| FTKPower-25C | 2025-05-02 | Updated colors and led patterns, and range of UWB. |



KINVENT

MEASURE. MOVE. PROGRESS