

#interactivetargets

# User Manual SQ Fire



sportquantum.com

Sanja Vukašinovi

2019 European Games in the Women's 50-Metre Rifle Three Positions



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### **Preface**





The SQ Fire electronic target is engineered for 5.6mm rimfire (22 Long Rifle) disciplines at a distance of 50 meters. The target assesses the impact location on a robust armored steel impact plate, designed to capture both bullets and debris with a bullet recovery system. It is operated through the SQ Touch tablet. The system delivers real-time scoring accurate to the nearest tenth of a point. In its standard configuration, the SQ Fire interactive target and the SQ Touch tablet are linked via an Ethernet cable, although Wi-Fi connectivity is also available.

#### **Technology**

SPORT QUANTUM technology can accurately identify impacts by analyzing the shock wave. This groundbreaking innovation has resulted in four international technology patents, enabling the attainment of performance standards mandated by the ISSF and Olympic disciplines, including precision exceeding a tenth of a point.

#### To enhance

As progress relies on performance measurement, the SQ Fire enables shooters of all skill levels, from novices to competitors, to evaluate every facet of their shooting practice, monitor their advancement over time, and access effective training techniques.

#### Enjoy and share.

Whether you are an enthusiast or a competitor, SPORT QUANTUM technology provides an innovative approach to precision shooting training. Shooters can access a comprehensive library of training exercises centered on methodology, precision, and proper rhythm.

#### Competition

The SQ Fire target has been certified as compliant with international sport shooting regulations by the French Shooting Federation. As a result, the French Shooting Federation permits the use of this equipment throughout the national territory for all 5.6 mm rimfire competitions (22 Long Rifle) at a distance of 50 meters.

## Certificate of Approval from the French Shooting Federation

**DATE:** January 23, 2024

**LISTENERS:** Jean-Louis GAYAUDON (No. B7799)

**DESCRIPTION:** Subsequent to the audits,

The SQ Fire electronic target system

developed and promoted by the company

#### **SPORT QUANTUM**

is affirmed to adhere to international sport shooting regulations.

Consequently, the French Shooting Federation permits the use of this equipment on national territory for the 50 m rifle events.



David.





# **Application Usage**and Features





# Start-up and setting up the application

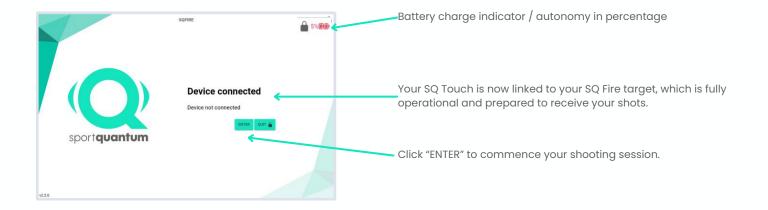




## Start-up the application and establish a connection to the target.

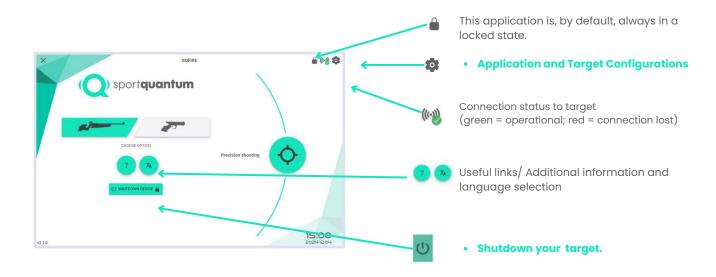
Upon initiating the SQ Touch tablet, if the application does not launch automatically, please select the "SPORT QUANTUM APP" icon. The application should then connect to the target automatically. If you encounter this page: ( device not connected)

- Ensure that the cable is securely connected to both the SQ Touch and the SQ Fire when using a wired connection.
- If you are using Wi-Fi, please look at page 53 of this guide.



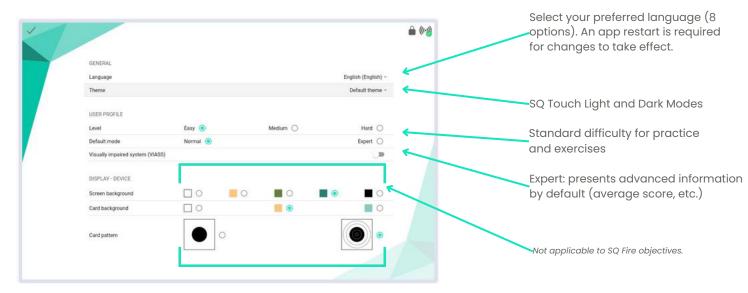


### **Application Home Page**





• Click to access the application and target settings page.

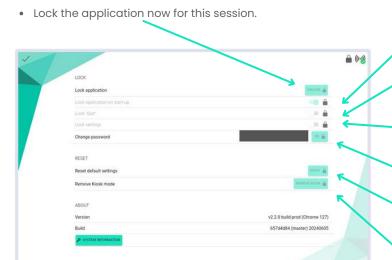




• Displaying your target configurations:







Secure the default application. All protected actions and settings must be accessed with a password.

Lock the "Exit button." The user will be unable to exit the application without a password.

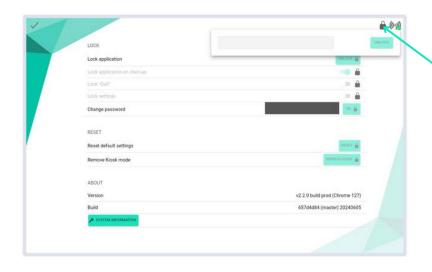
Lock "Settings." The user will be unable to modify target and application settings without a password.

Change the existing password. The default password is "1896."

Restore all settings to factory defaults, including login configurations.

Remove Kiosk Mode: The tablet's internal settings and other applications will remain accessible even when the app lock is activated. If the kiosk has been removed, reenabling it can only be performed by an administrator.





#### How can one unlock the application?

- 1. Select the icon.
- 2. Please input the password (default: "1896").
- 3. Select "Unlock."

Once the app is unlocked, all buttons and features restricted by this icon will become accessible.

Note: A complete reset of the application by an administrator is the only solution in the event of password loss.



#### **Help and Support**





#### Valuable resources

-By clicking o you will discover the useful links provided below.

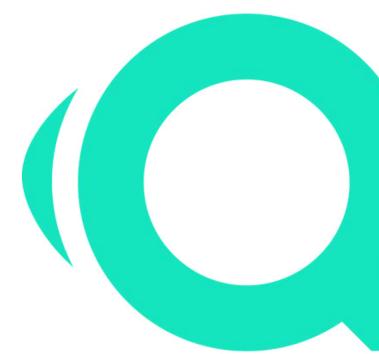


Simply scan the QR codes with your mobile device to access the latest documents and information on the SPORT QUANTUM website.

Access system information. This information may be requested by SPORT QUANTUM help desk.

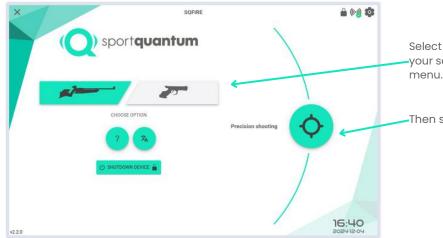


## Application and Target used





## Disciplines and activities selection.



Select your discipline: rifle or pistol. You may change your selection at any time by returning to the main menu.

Then select your activity: Precision Shooting.







## Select your desired visual in two steps.



#### **Step One: Discipline**

Select: Training / Challenge and subsequently the relevant settings.

As exemple:
Free shooting
Contrates
Pyramid
Longest series

#### Step two: selecting the cardboard

Select the visual of the card from the official national or international federations.



# Step One: Training or Competition Setup





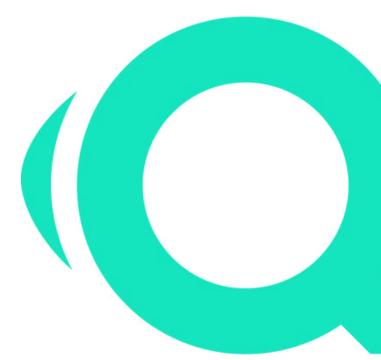
## Selection of Discipline: Training or Challenge





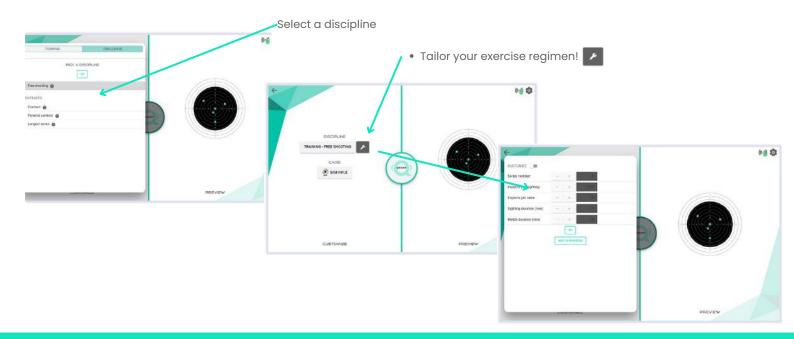
## First stage: Training

- Free shooting
- Contracts



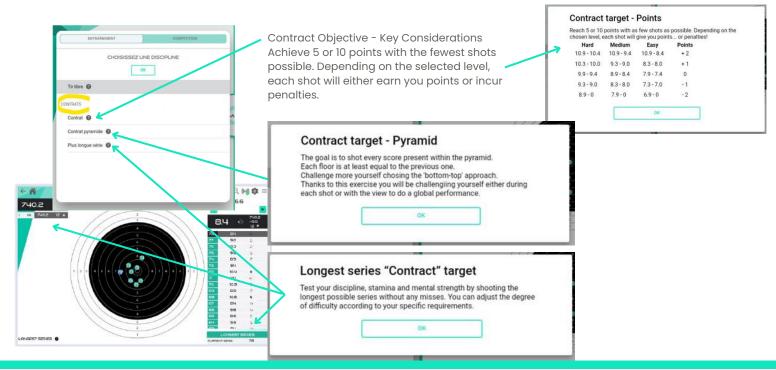


## Selection of discipline Contracts- Free shooting





## Selection of discipline Contracts- Free shooting





### **Step One: Challenge**

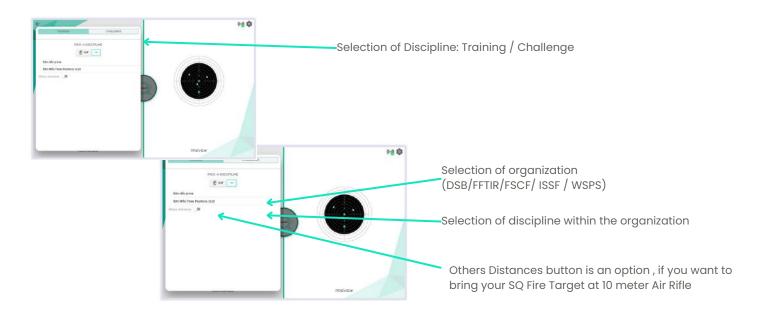
- DSB
- FFTIR
- FSCF
- ISSF
- WSPS





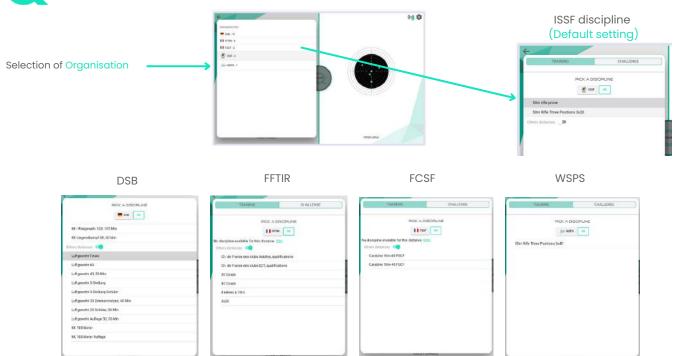


### Selection discipline: Challenge





### Selection discipline: Challenge



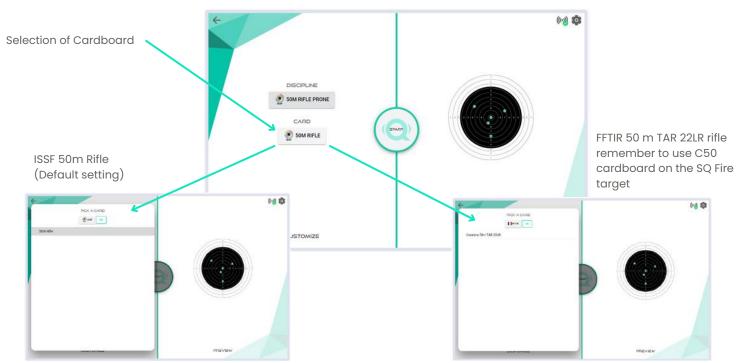


# Step Two: Setting up the shooting box





### Selection of Shooting Card





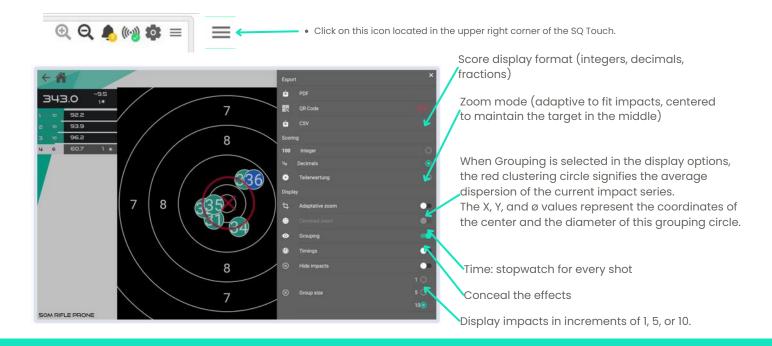
## **Shooting session**







## Impact and Score Display Configurations

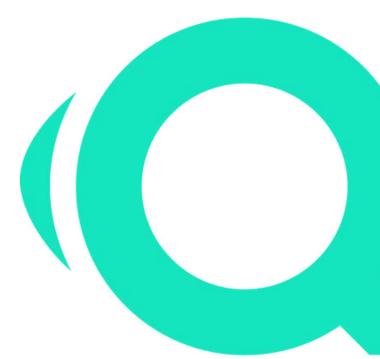


SQ Fire / App v2.2.0

FNI



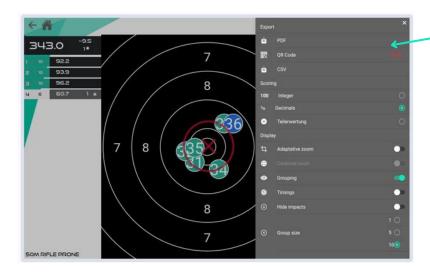
### **Export your data**





### Save your results (score)

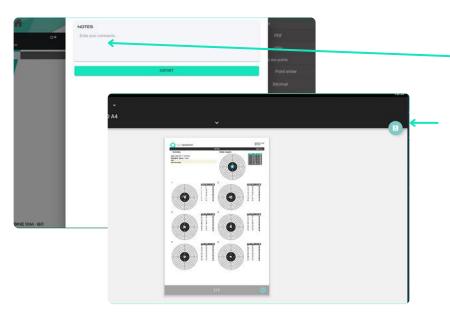




Click on "PDF" or "CSV" to export the data to SQ Touch.



### sportquantum Save your results in PDF or CSV file



Please enter your notes or comments and click EXPORT.

#### Click on the PDF icon.

The file will be stored in the "Downloads" directory of the SQ Touch tablet. You may designate the file name and save it.

Exporting and copying to a USB drive is performed outside the application or by connecting the SQ Touch to a computer.

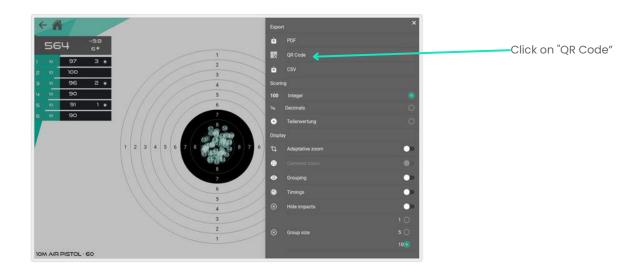
If your target is linked to SynQro, you can access your data and results directly through the supervisor.





### **Export:** QR code generator

A convenient way to export shooting results directly to a smartphone using a QR code generator. This method simplifies the process compared to exporting PDF and CSV files, especially in kiosk mode







### **Export:** QR code generator

- On your phone or tablet, open the built-in camera app.
- Point the camera at the QR code.
- Tap the banner link that appears on your phone or tablet.

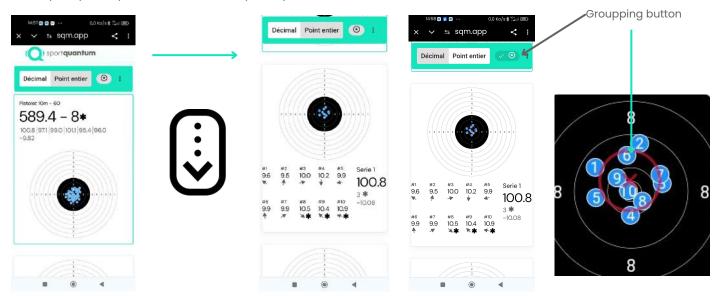






# **Online monitoring report**

• On your phone you will be able to analyse all your results







# **Online monitoring report**

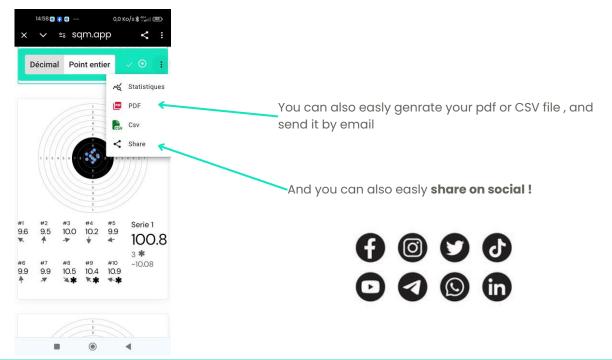
On your phone you will be able to see dashboard statistics







# **Online monitoring report**





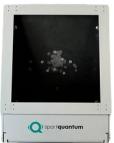
# Technical specifications





# sportquantum SQ Fire - Overview



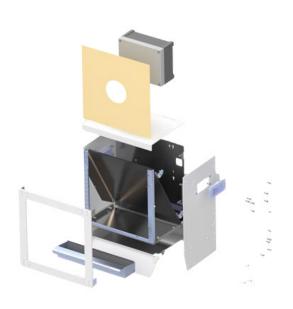


#### Unboxing of your SQ Fire target:

- 1 x SQ Fire target
- SQ Touch (shooter interface) featuring a specialized application
- Replaceable protective frame
- 75-meter RJ45 cable
- 15-meter RJ45 cable
- Waterproof Power over Ethernet switch (for 2 devices)
- Wall-support bracket
- 2 x Waterproof boxes 50 meters 22 LR



# sportquantum SQ Fire - Overview

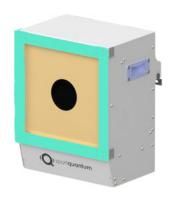


Designed for complete reparability, each component of the SQ Fire target can be individually ordered should it sustain damage.

- Interchangeable components:
  Water-resistant cardboard, 50 meters, LR22
  Water-resistant cardboard type C50
  Waterproof cardboard, 10 meters
  EPDM strip (internal target safeguarding)
  Front face protection shield
- Front drawer panel Measuring dish
   Ball retrieval drawer
- Right side
- Left side
- Upper cover



# sportquantum SQ Fire - Protective Frame

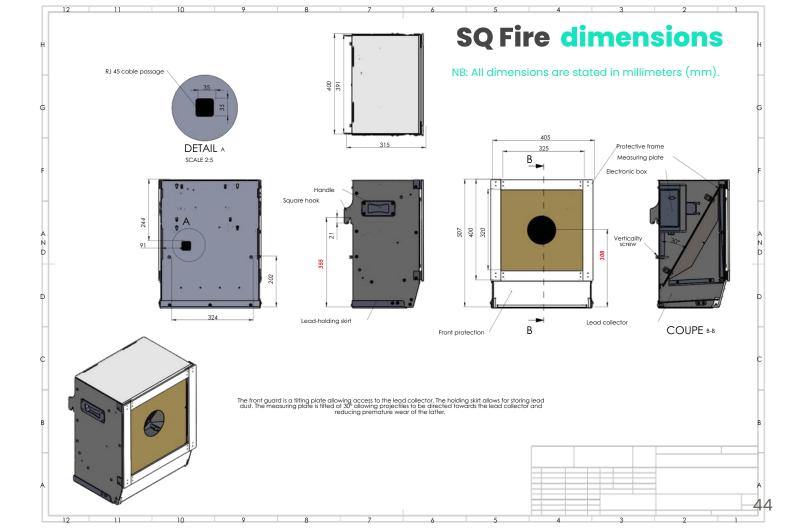




**Never fire** at the SQ Fire Target without its frame.

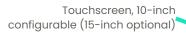
The frame is secured to the target using four BTR screws; it is advisable to regularly inspect the tightness of these screws.

If damaged, this frame must be substituted.





# sportquantum SQ Touch - Overview







The SQ Touch power button is situated on the back panel.

SQ Touch Rear Panel Connectivity

> Adjustable Monitor Stand for 10" to 27" LCD Displays



# **SQ Touch - Connectivity Solutions**

USB enables external devices, such as USB sticks or remote controls, to transfer files, including exporting scores and updating applications.

The LAN port enables direct connection of your SQ Touch to the local network via Ethernet or Power over Ethernet (PoE), facilitating both data transmission and power supply.

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HDMI for direct connection to a screen or television (tablet display)

micro SD slot

USB to RS-232 serial output

The OTG, or On-The-Go, adapter enables the connection of your tablet to a computer for file transfer purposes, such as exporting scores or updating applications.

A DC 12V power supply should be connected if the tablet is not powered through the PoE LAN port.

3.5mm audio headphone connectors



# sportquantum SQ Touch - Configuration

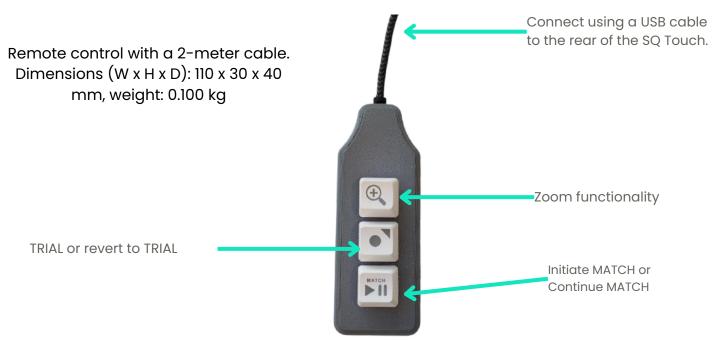
The SQ Touch Power button is situated on the back panel.

Return to the SQ Touch homepage





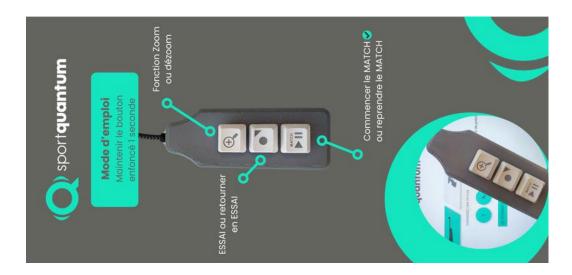
# sportquantum SQ Touch - Remote Controller





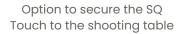
# sportquantum SQ Touch - Remote Controller

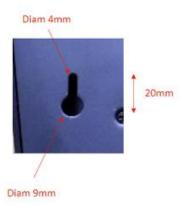
Flyer for printing and placing near the remote control.

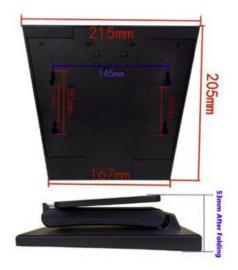




# ) sport**quantum** Dimension Support SQ Touch







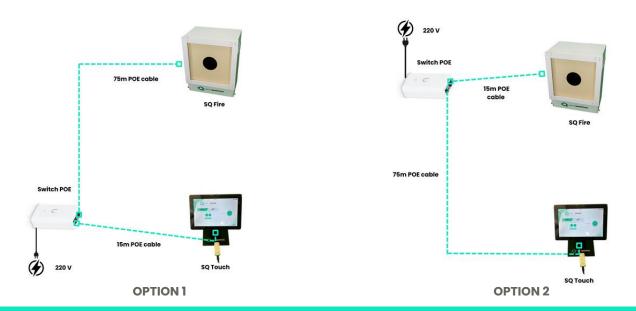






# sportquantum Power and Connectivity

Two nominal wiring diagrams are recommended by SPORT QUANTUM; additional studies may be conducted based on the number of targets and the configuration of your shooting range.





# ( ) sportquantum Technical specifications

Description	Technical specifications
Dimensions	Width 405 mm x Height 510 mm x Depth 315 mm
Weight	Target 24 kg (Package weight -> 35 kg)
Primary power source	Power over Ethernet (PoE)
Power supply to the objective	12 V DC
Temperature	Operating range: 0°C to 35°C; storage range: -10°C to 60°C (storage below 0°C may lead to premature system wear).
Humidity	8-80%
Energy consumption	10 to 15 W target and tablet



# Initial installation procedure





# Initiating the SQ Fire

#### The target must be firmly secured.

- Utilizing the supplied wall bracket.
- Utilizing a selectively arranged tripod.

For additional mounting options, please consult the accessory instructions.

## Shooting Distances & Height of Target Centres (sources EDITION 2022 (First Print 01/2023) Effective 1 January 2022 © ISSF)

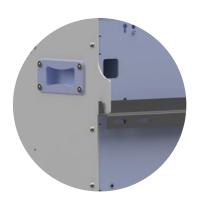
- Shooting distances must be measured from the firing line to the target face.
- · Target center must be within the following heights when measured from the level of the firing point floor:

Range Standard	Height	Height Variation allowable
50m	0.75m	±0.50m
25m	1.40m	+0.10m/-0.20m
10m	1.40m	±0.05m





# **Start SQ fire target**





- Attach the target to the stand utilizing the two hooks positioned on the rear
  of the target.
- Modify the angle of the target by utilizing the "verticality" bolts.

Verify vertical alignment with a spirit level.

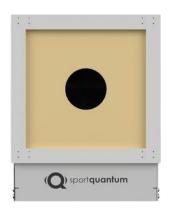
Position the appropriate SQ Touch tablet on the shooting lane table.

- The target is inherently powered electrically through its PoE port.
- The connection to the SQ Touch tablet can be established through either PoE or Wi-Fi, contingent upon the user's preferences and limitations.
- The SQ Touch tablet can be powered by
  - its internal battery (providing 2-3 hours of autonomy)
  - Through the PoE port
  - Via the included 12V power supply.



# **Precautions of Used**







#### **IMPORTANT** prior to each use:

- Ensure that the bullet or slag bucket, or drawer, is securely positioned and fully inserted into the target.
- Ensure that the front cover is firmly secured with the two thumbscrews.
- Ensure that the protective frame is firmly affixed to the target.
- Ensure that the top cover is securely in position.
- Ensure that no electrical cables are in the line of fire.

#### **IMPORTANT: Grounding of SQ Fire Targets**

SQ Fire targets, which are electrically powered and connected to a communication network, are used in environments where electromagnetic interference, power surges, or insulation faults may occur. Proper grounding is therefore essential.

#### **Grounding objectives**

- · Measurement reliability: Minimize interference and ensure the accuracy of the embedded sensors.
- Safety: Reduce the risk of overvoltage or electrostatic discharge (ESD).

#### Recommended cable type

- Flexible copper conductor with a minimum cross-section of 2.5 mm²
- Green/yellow insulation, compliant with applicable electrical standards

#### **Connection point**

SQ Fire target is equipped with a dedicated grounding connection point, located at the rear of the chassis (marked with the grounding symbol).

#### Inspection and maintenance

Check the grounding continuity upon installation.

Perform an annual inspection or after any technical intervention.





## **Device Control**



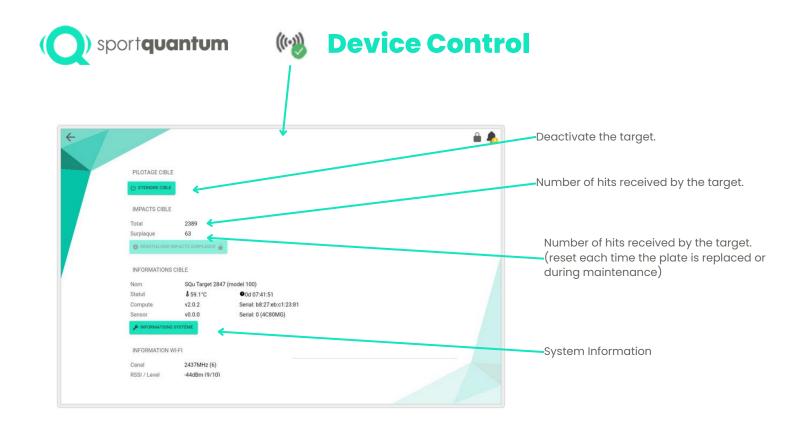
Connection status to target (click to access to Device Control)

• Various potential statuses:

The SQ application is linked to the target.

The SQ application is not connected to the target. Please consult the troubleshooting section on page 65.

The SQ application is attempting to reestablish a connection to the target.







# Device Control







## Device Control





# sportquantum Connection configurations

If needed, you may modify the configured IP address that the application utilizes to connect to the target.





Subsequently, select whether this new connection will be utilized automatically by clicking the appropriate "Auto" button.

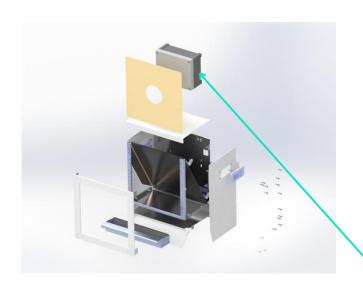


# **Service & Support**











This waterproof unit is secured to the target frame using four BTR screws.

Any tampering with the electronic unit will void the hardware warranty.

It must be returned directly to SPORT QUANTUM for all maintenance work.



## **Electronic device**





# Service and Assistance





The serial number is positioned at the front of the target, in the bottom right corner.

Please consistently reference the serial number in all correspondence with our support team.





• The target and tablet are powered on, but no connection

You have a wired installation, ensure that the RJ45 connectors are properly connected. Verify the connection settings for the SQ App/target p60.

Verify that the SQ application and the target are running compatible versions (in X.X.X format).

The target software version is accessible in the "Target Information" menu by selecting the Wi-Fi icon. The application version is located at the bottom left of the SQ Touch home page. The first two digits must match (e.g., Application v2.0.1 and target software v2.0.0).

If the versions are incompatible, please contact support to update one of the two media.

• Impact not observed

Ensure that there is no "parasite impact" notification displayed on the App icon ( ). If you encounter "parasitic impact messages," cleanse the internal surfaces using rubbing alcohol (never acetone!). Verify that the measuring plate connector is properly attached to the electronic box. Should the issue continue, please reach out to our support service.



# Maintenance %



# Suggested maintenance protocol



Adhere to the specified maintenance procedures:

- The bullet/slag drawer should be emptied approximately every 2,500 shots (i.e., when it reaches two-thirds of its capacity).
- At the same frequency, utilize equipment appropriate for lead cleaning.



### Warning



Handling lead-based warheads or slag necessitates the use of personal protective equipment (PPE) and suitable containers.

- Remove the two flat head screws situated at the base of the side panels of the target.
- Tilt the front cover forward.
- Pull the drawer forward from the bottom of the target (you will need to return it to the bottom of the target).
- Remove all items from the drawer and place them into the designated receptacle.
- To replace the drawer, execute the procedure in reverse order: 4-3-2-1.



# Suggested maintenance protocol



- Should the impact plate exhibit considerable deformation, it must be replaced with a new plate provided by SPORT QUANTUM.
- If the protective frame is substantially deformed, replace it with a new frame provided by SPORT QUANTUM.
- To detach the protective frame, gently unscrew the four screws (1 and 2 at the top, and 3 and 4 at the bottom on the sides of the target).
- Ensure that the four screws are consistently tightened to guarantee the frame remains securely in place during shooting.



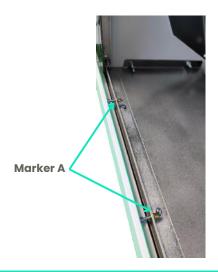


# Suggested maintenance protocol

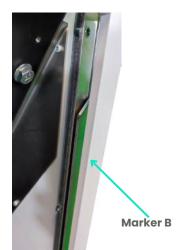


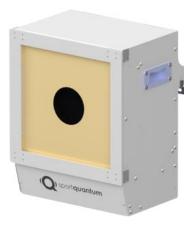
The shooting cardboard can be easily changed or replaced without the need for tools.

- Simply slide it vertically: upward to extract and downward to insert a new one.
- The shooting cardboard should be positioned on the two adjustable stops (Reference A) and glide within the side slides (Reference B).











# Guarantee







SPORT QUANTUM guarantees that all products delivered will be devoid of any physical and manufacturing defects under normal usage and service for a duration of two (2) years from the date of delivery.

If a product is found to be defective, SPORT QUANTUM or the local distributor may choose to either replace it with a product of at least equivalent quality or repair it using reconditioned or new spare parts, as deemed appropriate by the company or distributor.

The customer must provide SPORT QUANTUM with the requisite time and opportunity to perform the repair or replacement.

This warranty is valid only if the original invoice, which indicates the date of purchase, the type of product, and, where applicable, the name of the distributor, is included with the defective product.

SPORT QUANTUM retains the right to decline a complimentary repair if the required documents are absent, incomplete, or illegible.

The warranty is rendered invalid in the circumstances outlined in the General Conditions of Sale. Additionally, the warranty does not extend to components subject to normal wear and tear, as detailed in the general conditions of product use.

Warranty Extension If the Customer opts for an annual warranty extension, the Warranty and Repair Conditions remain entirely valid, except for the duration of the warranty.

#### The duration of the warranty is:

For new products: Two (2) years from the date of collection by the carrier.

For repaired products: Six (6) months on repaired products and on replaced spare parts, commencing from the date the carrier collects the repaired products.

In the context of a subscription and for the "continuous" delivery of Solutions: at any point during the subscription term.



# Management deficiencies during the warranty period



The Service and Support Form is available for download at https://sportquantum.com/support/contact/ and must be properly filled out and included with any defective item.

Diagnostic fees may be imposed on the customer if the form is not submitted.

- During the warranty period, SPORT QUANTUM or the local distributor will coordinate transportation at their discretion.
- SPORT QUANTUM will bear the expenses associated with the repair and return of the item to the customer, provided that the defect falls within the warranty coverage.
- If the defect is not covered by the warranty, as outlined in the General Conditions of Sale and the General Conditions of Use for the product, the request will be classified as a defect not covered by the warranty. Consequently, the Customer will be responsible for transport costs, administrative fees, and repair expenses.



# Out-of-warranty fault resolution



The service and support form is available for download at https://sportquantum.com/support/contact/ and must be properly completed and included with any defective item.

Shipping costs to SPORT QUANTUM or the local distributor, as well as return costs, are the responsibility of the customer.

An administrative fee will be applied to each repair request.

Labor will be billed, and parts will be charged at their catalog price at the time of repair.

For any urgent repair requests, please reach out to SPORT QUANTUM or your local distributor.

If no defect is identified, the administrative and diagnostic fees will still be billed to the customer.







General Statement on Recycling
SPORT QUANTUM urges owners of electronic devices to recycle their equipment responsibly when it is no longer required.

### Recycling Information in the European Union

The top plate (impact plate) and the protective frame must be disposed of as recyclable waste.



#### Crucial information regarding batteries and WEEE

Batteries and electrical and electronic equipment bearing the crossed-out wheelie bin symbol must not be discarded as unsorted municipal waste. Batteries and waste electrical and electronic equipment (WEEE) must be handled separately through the collection framework provided for customers to return, recycle, and treat batteries and WEEE.

Where feasible, batteries should be removed and isolated from WEEE prior to its inclusion in the waste collection stream. Batteries must be collected separately utilizing the established framework for the return, recycling, and treatment of batteries and accumulators.



SPORT QUANTUM products available in the European Union adhere to the stipulations of Directive 2011/65/EU, which restricts the use of specific hazardous substances in electrical and electronic equipment.

Declaration of conformity to CE standards required

European Union Conformity



# General Terms of Use



## **Usage Guidelines**



The following rules of use outline the rights and obligations of SPORT QUANTUM customers when utilizing a product or solution. It is the Customer's responsibility to communicate these Rules of Use to all Users of the Products and Solutions and to ensure their adherence. In the case of an authorized minor User (under 18 years old), the Customer must convey these Rules of Use to the holder of parental authority, who must accept them and ensure that the minor comprehends them.

SPORT QUANTUM reserves the right to amend these Rules of Use periodically. Such modifications will be published on the website www.SportQuantum.com thirty (30) days prior to their effective date. It is the responsibility of each Customer to remain informed of the current Rules of Use at all times.



# Product Safety Regulations



To ensure optimal security in the utilization of the Products, the Customer and/or User must specifically, though not exclusively, ensure that:

The location where the product is installed and utilized complies with the safety requirements for sport shooting, in accordance with the prevailing regulations of the country and the usage guidelines established by the International Shooting Sport Federation (I.S.S.F.) or the national Shooting Sport Federation where the target is employed.

All spectators and individuals must remain behind the shooter.

All safety regulations concerning the use of weapons must be adhered to.

It is essential to aim directly at the target, with the weapon held strictly perpendicular to the hanging plane, while the target itself is positioned vertically. The shot must strike the designated surface, specifically the inclined plate.

All users and spectators are monitored by an individual qualified to ensure adherence to all safety regulations governing the practice of sport shooting, in accordance with the previously mentioned safety requirements.

Furthermore, to mitigate the risk of electrocution, never submerge the cord, plug, or appliance in liquid, and refrain from performing maintenance operations while the equipment is energized.

## sportquantum Inherent Risks of Sport Shooting



SPORT QUANTUM offers electronic targets; however, it assumes no responsibility for their usage, the handling of weapons, or adherence to safety regulations and best practices associated with this sport. Due to its inherent risks, these guidelines must be consistently observed by all participants at all times.

The products are designed for seasoned sport shooters who possess a comprehensive understanding of the rules and practices of this discipline as established by the International Shooting Sport Federation (ISSF).

SPORT QUANTUM Customers, along with any other User of a Product, acknowledge the inherent risks associated with this sport and commit to adhering to all safety regulations relevant to its practice during any use of the Product, regardless of the purpose or location (whether at a Sport Shooting club or any other appropriate venue for Sport Shooting). Specifically, though not exclusively, it is imperative to ensure that:

Weapons are to be unloaded and secured when not in immediate use.

A loaded firearm is consistently grasped in the hand.

A loaded firearm is consistently aimed at the target.

Minors are required to adhere to the restrictions on access to weapons as stipulated by current legislation.



## Terms of Use for Enhanced Utilization



To guarantee the effective operation of the Product and the Solutions, it is essential to adhere to the environmental conditions required for the use of such a target, particularly:

In the event of a malfunction, issue, or damage to the Product, the Customer and/or User must promptly disconnect it and contact SPORT QUANTUM After-Sales Service at their earliest convenience.

If the product exhibits any signs of malfunction during operation, disconnect it immediately.

Do not utilize a defective unit or attempt to repair it independently.

If the appliance falls or is inadvertently submerged in liquid, disconnect it from the power source immediately. Refrain from using it thereafter.

Humidity must remain below 80%.

The product is designed for outdoor use.

The product is a precision instrument. It should not endure shocks beyond the impact of balls on the metal plate.



# Terms of Use for Enhanced Utilization



• Always ensure the protective frame is in place before shooting at the target.



- Always ensure the front cover is in place before shooting at the target.
- Never aim at the target without the bullet or slag drawer in place.
- The product must be hung with care and secured adequately to support the weight of the target over an extended duration, as well as to endure the force of impacts during shooting.
- The front frame must be precisely aligned. If the target frame is compromised, the target should not be utilized.
- The power cable of the target must be safeguarded against gunfire at all times.
- In circumstances where high reliability is essential, such as in official competitions, it is highly advisable to utilize a wired connection.
- In any event, refrain from using the Product for purposes other than those for which it was intended.





# Update the SQ-App and the target software.



It may be necessary, periodically, to acquire updates or new versions of the solutions and/or the product firmware, particularly to rectify potential bugs and to accommodate any modifications in the framework established by the ISSF – International Shooting Sport Federation.

It is the responsibility of the Customer and/or User to ensure they possess the most current version of the SQ Application and firmware. The latest updates are provided by SPORT QUANTUM through all available channels. However, it is prudent to verify the compatibility of the Product's hardware version with the available software versions beforehand.



## **Contact**





## **Customer Support**

## Customer support in France

e-mail: support@sportquantum.com Phone: +33 9 80 08 70 87

**Beyond France** 

Please reach out to the SQ Fire distributor or the customer service team at SPORT QUANTUM.

#### Postal Address

4 rue René Razel 91400 Saclay, France